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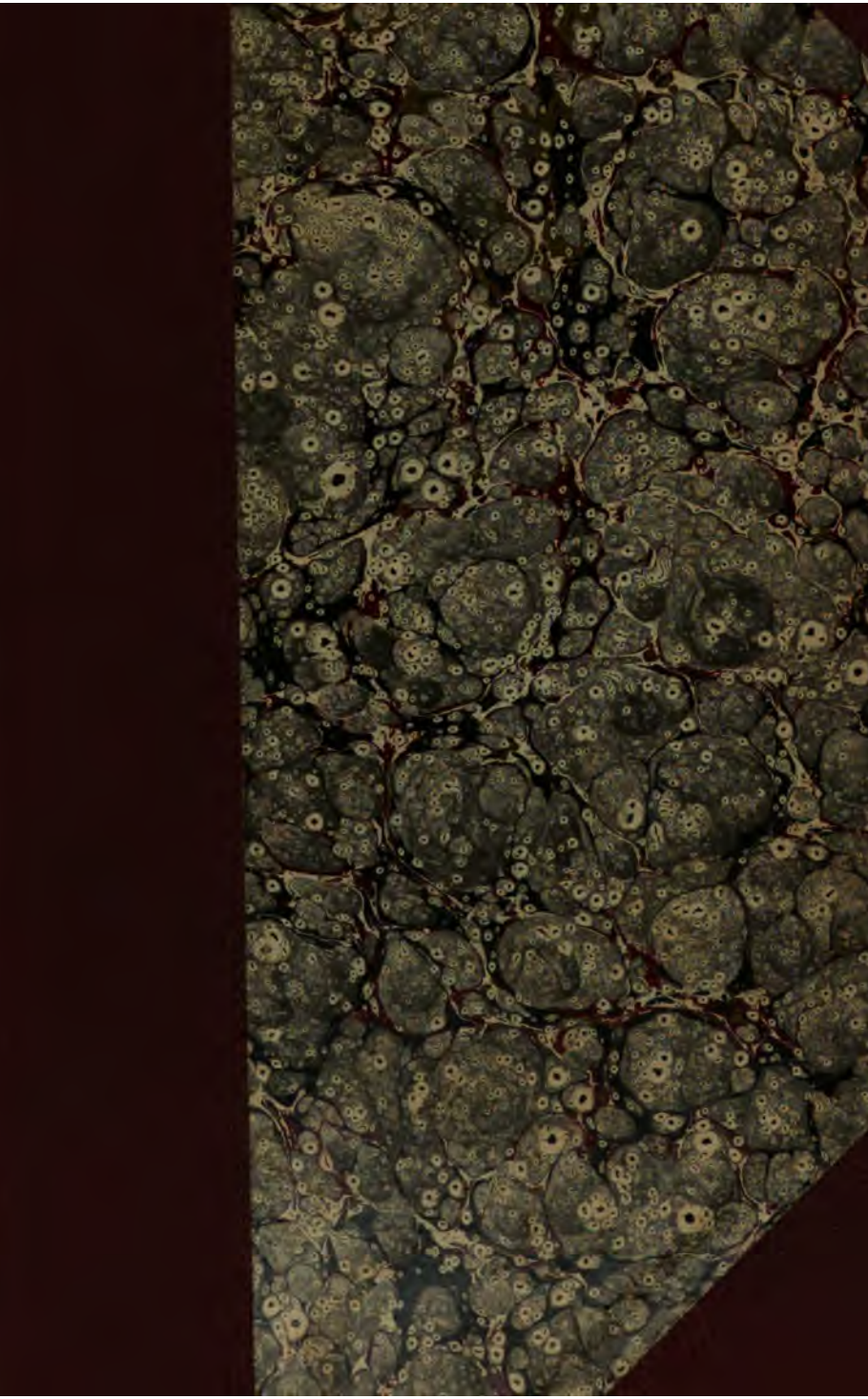

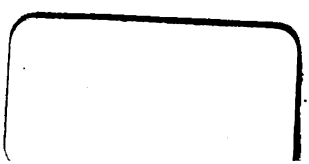

MEDICAL COMMUNICATIONS.

VOLUME THE SECOND.

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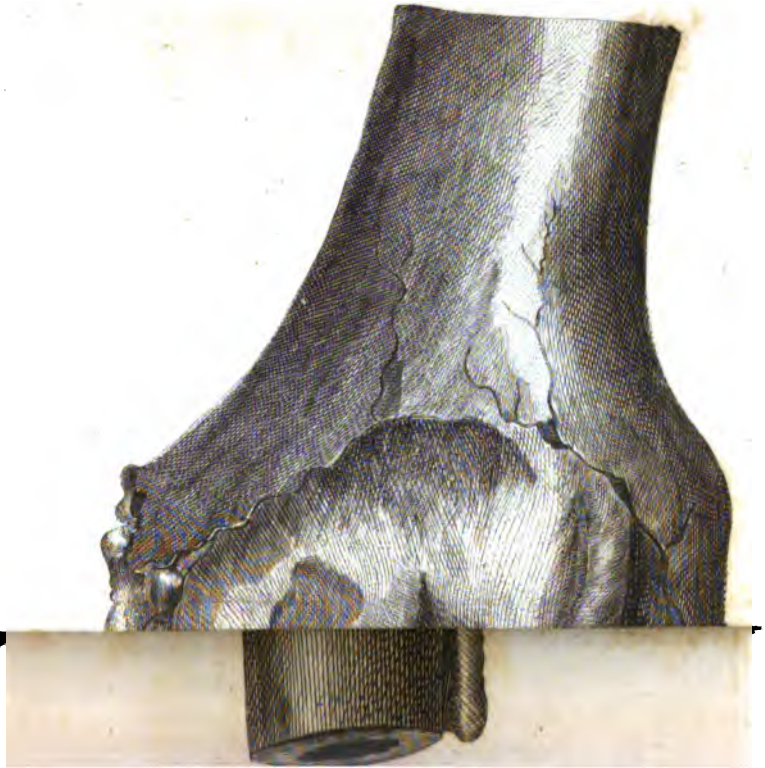

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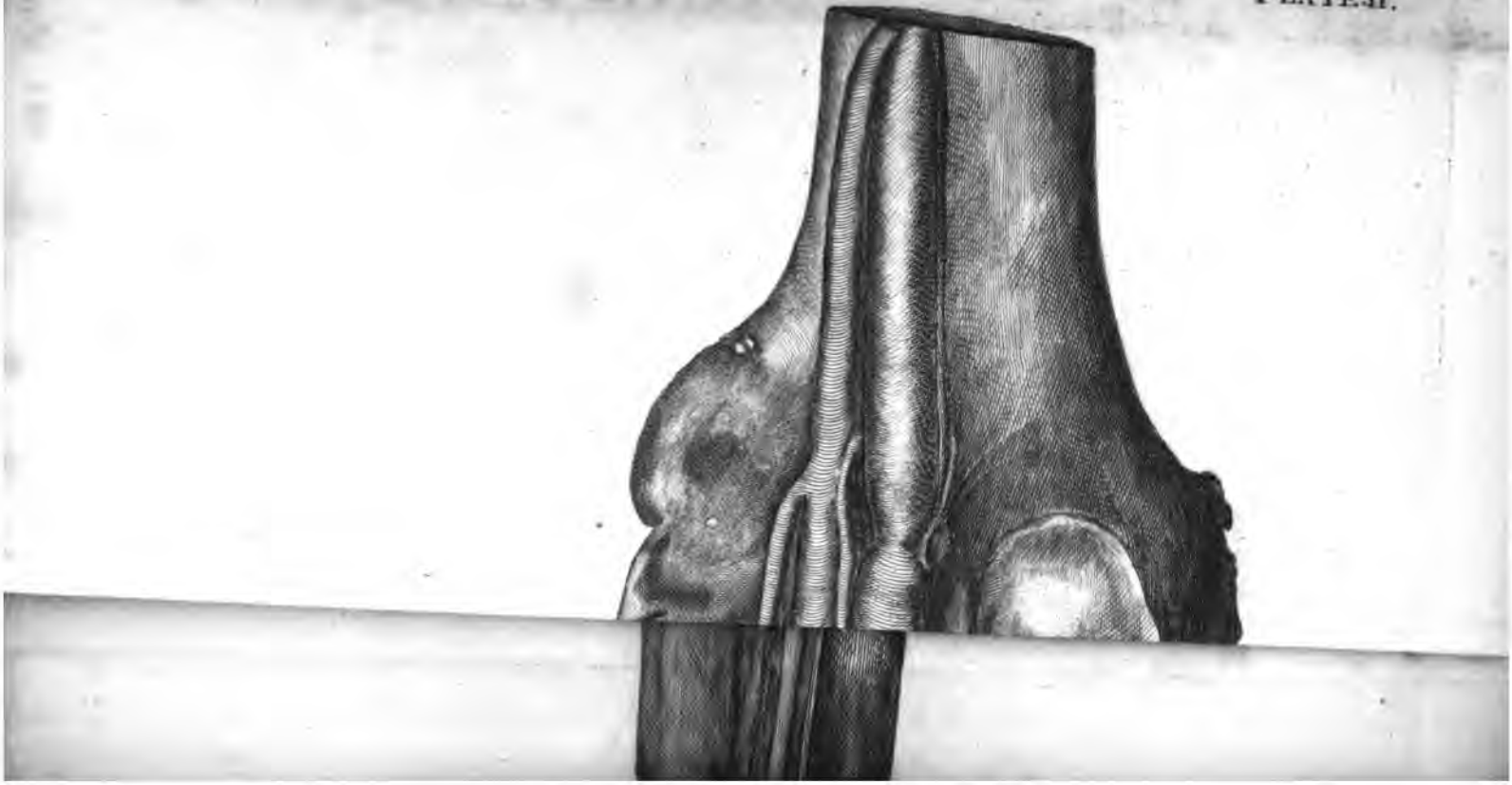

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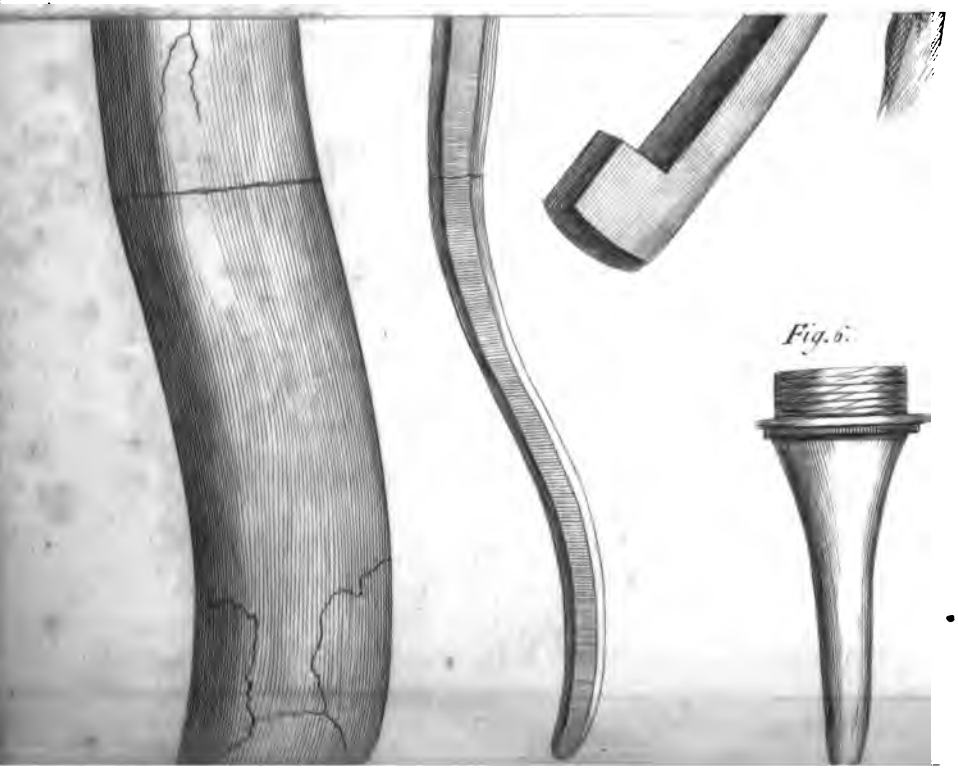

Fig. 6.

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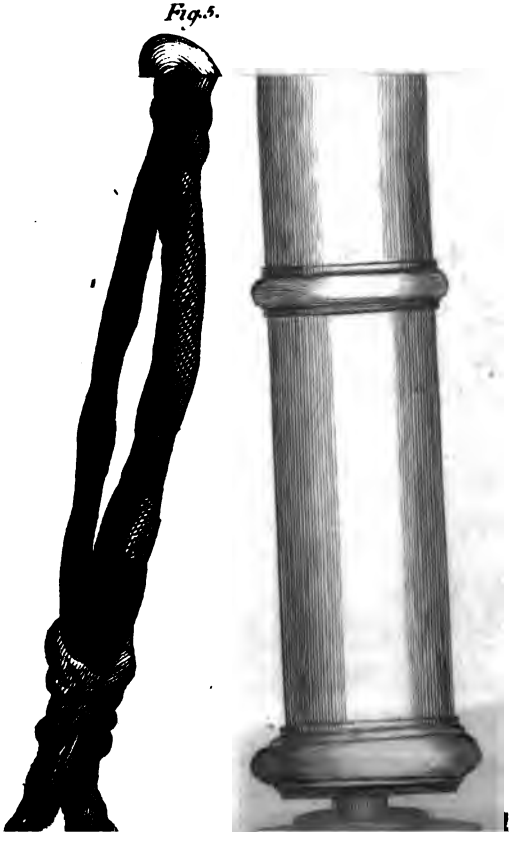

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MEDICAL COMMUNICATIONS.

I. *Case of a Recovery after a Ball had passed through the Lungs. By Mr.* EDWARD RIGBY, *Surgeon at Norwich. Communicated by* WILLIAM OSBORN, M.D. *Read August* 23, 1784.

MR. MOORE, the patient whose case I am about to relate, is a farmer at Heigham, near this city. He is about forty years of age, and has usually been a temperate man, but of a delicate constitution, and subject to coughs.

On the 24th of December, 1783, as he was standing with his face towards the fire, and with one of his arms raised, he received a ball from a pistol, which accidentally went off in the hands of a person who was sitting not more than two yards behind him. The Ball entered about the middle of the right scapula, and lodged very near the chest,

between the nipple of the right breaſt and the ſternum.

Happening to be upon the road I was met by a meſſenger coming for me. I found the patient ſtill ſtanding by the fire, and leaning forwards againſt the chimney-piece, with his face inclined downwards, and a conſiderable quantity of blood iſſuing from his mouth. He immediately pointed to the ball, which was very obvious by the tumor it had occaſioned in the integuments; being ſo near the ſurface that I was able to extract it by a ſmall opening made with a lancet.

Though in all probability ſome portion of the clothes had paſſed in with the ball, I did not think it right even with a ſmall probe to ſearch for it, but immediately brought together the ſides of both the wounds, neither of which bled much, and ſhut out the external air by applying to each a piece of lint, which was cloſely ſecured by adheſive plaſter.

Being very little faint, he walked up ſtairs, and was immediately put to bed. The blood, which at firſt came up in a fluid ſtate, ſoon leſſened in quantity, and what was raiſed

raiſed was coagulated. As this excited a cough, and I expected the moſt formidable ſymptoms of inflammation to come on, I took away ſome blood from the arm, gave him an anodyne to allay the cough, and deſired that he might be kept as ſtill as poſſible. At the ſame time he was directed to avoid every thing ſpirituous, and to take but very moderately even of the moſt harmleſs food. I ſaw him again in a few hours; his pulſe was then very little quicker than uſual, no great heat had come on, he had very little pain in the parts, there was not the leaſt emphyſematous appearance upon the cheſt, and his mind was perfectly calm; but he ſtill coughed conſiderably, and brought up at each time ſome coagulated blood. I directed ſome nitre to be adminiſtered occaſionally, the anodyne to be repeated in the evening, and an opening medicine to be taken the next morning. He remained nearly in the ſame ſtate during the reſt of the day, and had a tolerable night, although his ſleep was frequently interrupted by the cough. As he thought himſelf rather hotter the next morning than he had been, he was bled again, but he con-

tinued during the remainder of the day without any alarming ſymptoms.

The preceding mode of treatment being ſuch as the nature of the caſe obviouſly required, was continued, and I was ſurprized, day after day, to find him abſolutely without fever, difficulty of breathing, or any ſymptoms of inflammation. The plaſters were not removed until ſeveral days after the accident, and the wounds then appeared to be merely ſuperficial, and healed very ſoon without the leaſt unfavourable appearance.

As the weather was remarkably cold at this time, he was entirely confined to his room, and for the firſt fortnight he was chiefly in bed. The quantity of coagulated blood which he at firſt brought up by coughing, decreaſed much after the ſecond day, and the cough became in proportion more moderate, but he ſtill raiſed, at times, a ſmall quantity for more than a fortnight.

About a month after the accident, he came down ſtairs, and conſidered himſelf well.

To whatever cauſe this extraordinary recovery was principally owing, the patient's having been ſo remarkably attentive to regimen, having ſo carefully avoided bodily motion

motion and exertion, and having, notwithſtanding the abſence of all unfavourable ſymptoms, been repeatedly bled, contributed, I doubt not, to the prevention of inflammation. Moreover, I am perſuaded that the circumſtance of the wounds being ſo ſoon cloſed, and ſo ſeldom dreſſed, occaſioned them to heal much ſooner than they would have done, had they been expoſed to the external air, or irritated by ſearching for the extraneous matter that was carried in with the ball, and which the event of the caſe proves to have been of no conſequence, although at this time a ſmall portion of the clothes may diſtinctly be felt under the integuments, very near the cicatrix in the cheſt; and to theſe circumſtances likewiſe might in ſome meaſure be owing, his being ſo totally free from emphyſema.

The ball was three eighths of an inch in diameter, and weighed two drachms and ſix grains.

Norwich, June 30, 1784.

II. *A Caſe of retroverted Uterus, in which the Paracenteſis Veſicæ was ſucceſsfully performed. By* RICHARD BROWNE CHESTON, M.D. F.R.S. *Phyſician to the Glouceſter Infirmary. Communicated by Mr.* HENRY WATSON, F.R.S. *Read Sept.* 21, 1784.

ON the 7th of October, 1781, I was deſired by an apothecary, a few miles from Glouceſter, to viſit a poor woman, who had, for ſome days, laboured under an incontinence of urine.

On examination, I found the bladder full of urine, and ſo much diſtended, as to advance conſiderably above the navel. I therefore immediately introduced a male catheter (the only one I was able to procure) by which three pints of urine were evacuated, to the great relief of the patient.

Inquiring more particularly into the hiſtory of the caſe, I found the woman was about four months gone with child, and that on Tueſday the 25th of September, after a fatiguing walk, ſhe had perceived her water dribbling from her, but without any particular fulneſs of the abdomen.

During

During the remainder of that day ſhe complained of great pain, attended with ſuch a bearing down, as made her fearful of a miſcarriage. In the courſe of the ſucceeding night and day, ſhe paſſed no urine at all, and being very much alarmed, as well from her ſufferings, as from a diſtention of the abdomen, which had now come on, a ſurgeon in the neighbourhood was ſent for, who drew off near two quarts of urine.

On Thurſday (Sept. 27th) ſhe was tolerably eaſy, but paſſed no more urine than what dribbled away now and then involuntarily. The next day (Sept. 28th) the ſurgeon again attempted to paſs the catheter, but could not ſucceed, and only a tea-cupful of a bloody fluid came away.

As ſhe was deemed in every reſpect a proper object for our Infirmary, ſhe was ſoon afterwards admitted into it, under my immediate care *.

Having ſome ſuſpicion that this was a caſe of retroverted uterus, I now made every neceſſary examination, and found the paſſage of the vagina very much ſtraighten-

 ed,

* Dr. Cheſton was at that time one of the ſurgeons of the Infirmary.

ed, and the meatus urinarius ſo retracted, that it was with difficulty found.

I could not diſcover the os uteri, but felt a large tumor filling up the hollow of the ſacrum, and bearing ſtrongly againſt the perinæum. On examining by the rectum, I found the ſame tumor preſſing the ſides of that gut ſo forcibly together, that its paſſage ſeemed entirely ſhut up.

Being now thoroughly ſatisfied that I was right in my conjecture, I endeavoured to paſs a female catheter, but met with ſuch reſiſtance, that I could only introduce it about one-third of its length, when a few drops of urine came away; but having procured a long male flexible catheter, I was able, though not without great difficulty, to introduce it about half its length, when about a pint of urine came ſlowly away. A clyſter was afterwards thrown up, by which a ſtool was procured, and the patient was directed to take an opening mixture.

The next morning (Oct. 9th) the catheter was again introduced, and near a pint of urine brought off, but without apparently leſſening the ſize of the bladder. I then endeavoured, according to the methods recommended

commended in ſuch caſes, to alter the ſituation of the uterus, but without the leaſt effect.

On the 10th in the morning I paſſed the catheter again, and drew off about a pint more of urine; when examining with great circumſpection, I at laſt met with the os tincæ at the full length of my finger, reſting as it were on the os pubis. In the afternoon of this day, for the firſt time, the patient had two ſtools without a clyſter, and in the evening near a quart of urine was drawn off.

During the three following days every method from which relief could be expected was made uſe of to reduce the uterus, but without ſucceſs; and though I could introduce the flexible catheter near three-fourths of its length, I could not draw off ſuch a quantity of urine as ſenſibly to diminiſh the tumor of the abdomen. I therefore concluded that the only chance my patient had left, was from the paracenteſis veſicæ, which I reſolved to defer no longer than the next day.

On that day (Oct. 15th) I was prevented from ſeeing her till about five in the evening,

ing, when I found her in great pain about the region of the bladder, and in the back. The urine had been drawn off, as uſual, in the morning; and being now convinced that no time was to be loſt, I punctured the bladder with a middle ſized trocar, which I paſſed into the tumor about two inches above the os pubis; and immediately upon withdrawing the perforator, the urine, which was highly offenſive, ran off very freely. I choſe this ſized trochar, as the canula would allow me to introduce through it a flexible catheter, from which I thought it probable ſome advantages might be derived.

As the urine ran off ſo very freely, I deemed it adviſable, now and then, to interrupt its diſcharge by ſtopping the end of the canula with my finger; and having taken away about three pints, I determined to defer drawing off the remainder for a few minutes, that the bladder might contract on what was left.* I therefore ſtopped the mouth

* I have been convinced by repeated experience, that we ſhould not ſuffer the urine to run off too faſt, by means of a catheter, when the bladder has been over diſtended for any length of time; for having in a certain degree loſt its power of contraction, the ſides fall together in a flaccid ſtate, which in ſome inſtances within my knowledge has laid the foundation of future miſchief.

mouth of the canula with a ſmall cork. The eaſe ſhe received from the diſcharge was acknowledged by the moſt grateful expreſſions, and it was obſerved by a gentleman who held her hand during the operation, that her pulſe, from being ſmall and quick, became full and free.

At the expiration of about ten minutes I drew out the cork to get away the remainder of the urine, when, to my great diſappointment, not a drop would paſs; and introducing a probe to examine into the cauſe of this obſtruction, I had the mortification to find that the end of the canula was not in the cavity of the bladder. However, though I could not paſs the probe into the bladder, I had the ſatisfaction, by preſſing the end of the probe againſt the ſides of the bladder, to find the urine run off in a ſtream through the wound to the amount of two pints more.

As the belly became flaccid, I withdrew the canula, and after covering the puncture with a bit of plaſter, and the whole abdomen with a cloth dipped in ſpirits, ordered the patient to be put to bed, and a clyſter to be injected.

About

About two hours afterwards ſhe began to complain of a violent pricking pain in the lower part of the abdomen, which particularly affected the left iliac region, and the abdomen ſoon became ſo tender, that ſhe could not ſuffer it to be touched. I now introduced the catheter into the urethra; it paſſed with great facility, and near twelve ounces of urine came away.

On examining the ſtate of the vagina, I obſerved that the protruſion had entirely retracted within the os externum, but the os uteri could not yet be diſcovered. I ordered ſix ounces of blood to be taken from the arm; and another clyſter to be thrown up, and, after its operation, a ſaline draught with Thebaic tincture to be adminiſtered. I likewiſe deſired, that a female catheter might be introduced and left in, to prevent any accumulation of urine.

The next morning (Oct. 16th) I found the patient had been very reſtleſs the whole night; and that the abdomen was ſtill very tender to the touch. Her pulſe beat near 140 ſtrokes in a minute; the heat of her body was moderate, and at times there had been a gentle moiſture on her ſkin. She had had

had a very copious ſtool in the night. The catheter having proved very inconvenient to her, it was only paſſed occaſionally, at which times a conſiderable quantity of urine was drawn off.

Upon examining the vagina, I now found the os uteri in its natural ſituation.

In the courſe of the ſucceeding day ſhe had three ſtools, with one of which ſome urine paſſed off. The abdomen was ordered to be fomented with a ſtrong decoction of poppy-heads, in which was diſſolved ſome crude ſal ammoniac. The catheter had been introduced ſix times during the laſt twenty-four hours, and about half a pint of water each time came away.

Oct. 17th. She had paſſed a tolerable night and the ſoreneſs of the abdomen was much leſſened. I now obſerved for the firſt time, the labia to be much tumefied but they were neither hard nor œdematous. She had had a ſtool in the night, and was ſenſible that ſome urine had paſſed off with it, though the catheter had been introduced with its uſual effect every four hours.

Her pulſe was ſtill of the ſame quickneſs as the day before. About the middle of the

the day ſhe complained of phlegm in her throat, which at times excited efforts to vomit; in the evening ſhe appeared much indiſpoſed, frequently complaining of the uneaſineſs in her throat juſt mentioned, and which ſhe deſcribed as ariſing from the affected part * of the abdomen. She was ordered to take a ſtrong infuſion of chamomile flowers, with twenty drops of ſpiritus vitrioli dulcis every four hours.

October 18. During the preceding night, ſhe had been very reſtleſs, and, at times, delirious; her reſpiration alſo was much affected, and ſhe made great efforts to diſcharge the phlegm ſhe had before complained of, but with ſuch little effect, that ſhe appeared to be in the greateſt danger of ſuffocation. After giving repeated doſes of ſpiritus volatilis aromaticus, a proper expectoration came on, with a general relief of all her ſymptoms.

The next day, (Oct. 19.) ſhe continued to mend; but on the 20th, complained of ſoreneſs round the puncture, and, upon examination, the integuments at this part were found

* This is a circumſtance I have ſeveral times obſerved in ſlow inflammations of the inteſtines and peritonæum.

found to be hardened and inflamed; and the day following (Oct. 21ſt.) a conſiderable diſcharge of very offenſive matter took place, from the orifice made by the trocar.

In the courſe of the five ſucceeding days the diſcharge diminiſhed, and became more favourable. She alſo gained ground both in ſtrength and ſpirits. Till this time, however, ſhe had been under the neceſſity of having the water drawn off, as from the beginning. But, on the morning of the 27th, ſhe, for the firſt time, felt the motion of the child; and, ſoon afterwards, ſhe had an inclination to make water, which came away in a conſiderable quantity, and from this period continued to be voided naturally.

The urine, for the firſt three days, was of a natural colour; but, on the fourth, it was exceedingly foul and turbid, and depoſited a purulent ſediment. This kind of urine continued to be voided for ſeveral days; but, by degrees, it became leſs loaded, and the ſediment much lighter, and more like the mucous depoſit which attends every irritation of the bladder. The external

external wound ſoon afterwards healed up very kindly. She was perfectly recovered by the 12th of November; and, at the expiration of her time, was delivered of a fine healthy child. Since that period I have been informed that ſhe has been again pregnant, and paſſed through her time without any untoward circumſtances.

In moſt of the caſes of this kind, related in the Medical Obſervations and Inquiries, London Medical Journal, and Medical Commentaries, the catheter could be introduced, and the whole of the urine being drawn off, the uterus appears to have been eaſily reſtored to its place. Two inſtances where this could not be done are recorded as fatal. In one of thoſe inſtances, related by Mr. Lynn *, the circumſtances of which ſeem, in every reſpect, to agree with thoſe of the foregoing caſe, had the patient ſubmitted to his propoſal of the paracenteſis veſicæ, there is reaſon to hope ſhe might have been preſerved. The preſent inſtance ſhows the propriety of the advice, and confirms the very pertinent remarks annexed to Mr. Lynn's paper on this ſubject.

I thought

* Medical Obſervations and Inquiries, vol. iv. p. 388.

I thought it moſt adviſable to make the puncture at that part above the pubis, where I could perceive a fluctuation, and, to avoid doing any miſchief, I made uſe of a trocar not more than two inches in length.

The ready flow of the urine prevented me from uſing a catheter as I at firſt intended; but the accident that occurred of the removal of the canula, ſhould, I think, be a caution to us in future, that whenever a ſhort trocar is employed, (and ſuch only a prudent man would uſe *) either another long canula, or a flexible catheter, which laſt I would prefer, ſhould be introduced to prevent a ſimilar event; for, that the urine from being interrupted in its paſſage through the canula, inſinuated itſelf into the cellular membrane, and produced the abſceſs, I apprehend cannot be doubted.

* Since the foregoing account was drawn up I have been informed, that a ſurgeon, in a ſimilar caſe, by making uſe of a longer trocar, penetrated the uterus, in conſequence of which, the caſe terminated fatally.

III. *Account of a Caſe in which the Tendon of the Biceps Muſcle was punctured in bleeding. By Mr.* THOMAS COLBY, *Surgeon at Torrington in Devonſhire. Communicated by* EDWARD WHITAKER GRAY, M.D. F.R.S. *Read October* 5, 1784.

ON Friday, the 25th of Sept. 1778, I bled a Lady, of about thirty-five years of age, in the vena baſilica. She felt not the leaſt unuſual pain at the time of the operation, nor any inconvenience after it, until the evening of the next day, when ſhe complained of a tenderneſs at the wound. I then examined it, and perceiving nothing particular in its appearance, applied only a pledget with linim. alb. and ſome ſticking-plaſter over it. The day following, however, (the 27th) ſhe felt an unuſual ſtiffneſs throughout the whole lower arm; and it was not without ſome pain and difficulty that ſhe could raiſe it to her head. In the evening the pain darted towards the extremities of her fingers, and ſhe complained of a ſenſation over the muſcular part of the arm, as if it were bound with a cord. I directed a paregoric draught to be taken

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at night, and a purging medicine the next morning; and the whole lower arm after being rubbed with a mixture of oil of olives and laudanum, to be ſurrounded with an emollient cataplaſm.

On the 28th, ſhe ſeemed ſomewhat eaſier, but grew worſe towards night: the pain near the place of inciſion, was much increaſed, though the wound itſelf was perfectly cloſed and free from inflammation; the arm alſo appeared to be a little ſwoln, and a ſlight degree of tenſion was perceptible upon the anterior and muſcular part of it. The ſenſation of being bound, as with a cord, continued as before; but no inflammation appeared, neither was the arm painful on being moderately preſſed.

She continued nearly in this ſtate until about the 12th of October, during which period I had continued to flatter myſelf with hopes, that by perſeverance in embrocating the arm with the liniment, and the uſe of frequent fomentations and emollient cataplaſms, aſſiſted by a ſtrict regimen in diet, laying the arm in a relaxed poſition, and confining her, for the moſt part, in bed, together with the exhibition of an opiate at night, and a laxative when neceſſary, things would gradu-

ally have mended: but I had the mortification to find that we gained no advantage. The liniment was changed for camphorated oil, and afterwards for Goulard's Aqua ſaturnina, but ſtill without ſigns of amendment.

On the morning of the 13th, I found the patient had paſſed a very reſtleſs night. and that the pain in the arm had been very acute. As ſhe complained of frequent ſhiverings, and conſiderable thirſt, I ordered her a laxative, and a ſaline mixture. Towards night, her pulſe grew quick, and her ſkin became hot; ſhe had nauſea, attended with bilious vomitings, difficulty in making water, great uneaſineſs in her bowels, and a fixed pain below the ſternum, and about the lower jaw. I had now too much reaſon to fear the acceſſion of a locked jaw.

She would not permit me to bleed her, from a conſciouſneſs, I apprehend, that her preſent ſufferings originated from that operation. I therefore ordered her feet and legs to be put into warm water, and twenty drops of Tinctura Thebaica to be given every two hours. After the third doſe of this medicine ſhe became ſleepy, and it was then diſcontinued.

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A phyſician was now ſent for, who came in the morning; but before he arrived, a violent ſwelling had come on, attended with an Eryſipelas, which ſpread over her face, neck, and arms; and, from that inſtant, all the ſymptoms of ſtricture and danger abated. The bark was then plentifully adminiſtered, the ſwelling gradually ſubſided, and, in about ten days, ſhe was able to walk out in the air; though the perfect and eaſy motion of her arm was not recovered until two or three months after.

Torrington,
Sept. 15, 1784.

IV. *Caſe of a Child born with Symptoms of Eryſipelas followed by Gangrene. By the late* ROBERT BROMFIELD, M.D. F.R.S. *Phyſician to the Britiſh Lying-in-Hoſpital. Read, February* 8, 1785.

ANNE HALLET, aged twenty years, and apparently healthy, came into the Britiſh Lying-in Hoſpital, on Thurſday evening, the 23d of December, 1784, and was delivered of a boy of a moderate ſize the next evening, about nine o'clock, having had a natural eaſy labour. The child was born with its whole face ſwelled and inflamed, particularly the left ſide of it, which had the true eryſipelatous appearance. The legs, feet, and left-hand, were likewiſe ſwelled and inflamed; and on each tibia, appeared a dark brown, or livid, ſlough, of an oblong form: that, on the left, extended almoſt two-thirds of its length, was nearly an inch in diameter, and had a granulated appearance; but that on the right tibia was not ſo large. The ends of the toes felt cold, and were covered with black ſloughs.

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The child was not ſeen by any of the medical gentlemen belonging to the hoſpital till the next day, when Mr. Graves, the ſenior Surgeon, who arrived firſt, ordered all the parts affected to be wrapped in cloths dipped in camphorated ſpirit of wine.

Dr. Garthſhore and myſelf ſoon followed Mr. Graves to the Hoſpital, and found the child exactly in the forementioned ſtate, with the addition of ſome ſmall veſications, which had ariſen in the courſe of the night.

We all conſidered this diſeaſe to be that kind of eryſipelas, which we had often ſeen attack children in the hoſpital a few days after their birth, in different parts of their bodies, but generally beginning about the genitals, or navel; the integuments, as the diſeaſe advanced, becoming hard and painful to the touch, and ſometimes ſpreading ſo rapidly as to deſtroy them.

In the leſs violent attacks, we had frequently ſeen ſucceſs attend the exibition of conſiderable quantities of bark, and the external uſe of fomentations, ſpirituous em-

brocations, and emollient cataplaſms; we therefore ordered the child to be fomented twice or thrice every day, ſprinkling the clothes with camphorated ſpirit of wine, which was alſo applied to the affected parts, previouſly to the application of a bread and milk poultice. The child, at firſt, took four ounces of a ſtrong decoction of bark daily, and we obſerved with pleaſure, after three days, that the face and other parts affected, were leſs ſwelled, and had a better appearance; eſpecially the toes and fingers, on which veſications were now formed.

On the third day, a veſication began to form on the left cheek, and another juſt above the eye-brow, on the ſame ſide.

On the 4th day the veſications were increaſed in number and ſize, eſpecially on the legs, where they extended almoſt over the whole limb. Some confectio cardiaca was ordered to be added to the decoction of bark, and pledgets dipped in oleum terebinthinæ were applied to all the parts affected, previouſly to the application of the poultice. The mother having now an appearance of milk, the child was put to the breaſt; but,

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on account of the badneſs of the nipples it could not profit by it much.

On the 5th day there was little or no alteration.

On the 6th day, the veſications on the left leg were opened, and a ſanious fluid was diſcharged; the child now ſucked its mother very well.

On the 7th day, a yellow ſlough appeared on the metatarſus of the left foot, near the leſſer toes.

On the 8th, the ſkin on the right leg, between the ſlough and knee, appeared livid; and the cuticle of the toes was looſe and ſhrivelled, ſeeming to threaten the loſs of ſome of them. The child appeared much debilitated, but continued to ſuck; and, for the laſt three or four days, had taken eight ounces of the decoction of bark, with one drachm of confectio cardiaca every twenty-four hours. The pledgets were now dipped in digeſtive ointment, with oleum terebinthinæ; and ſome cataplaſma e cymino was added to the poultice.

On the 9th day, the ſloughs were every where ſeparating; the livid colour of the ſkin on the right leg had diſappeared; the ſlough

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on the metatarſus, which before looked yellow, was now very black; but that as well as the others, was beginning to ſeparate.

On the 10th day, every thing appeared ſtill more favourable; the cuticle, and ſome of the nails of the toes of the left foot came away with the dreſſings, leaving the toes covered with a new cuticle.

On the 11th and 12th days, the ſloughs every where continued to ſeparate though ſlowly; the veſications on the toes of the right foot, and thoſe on the fingers of the left hand, ſtill remained, and the cuticle of theſe parts was in a ſhrivelled ſtate.

On the 13th and 14th days, the child continued to increaſe in health and ſtrength. On the 15th and 16th, the thick ſloughs from the tibiæ, came off, and left the denuded parts of a florid good colour. On the 16th and 17th, the ſloughs were ſeparated from the cheek and forehead; that on the metatarſus ſeparated very ſlowly, and thoſe on the left hand and right foot were ſtill adhering. Some aphthæ were obſerved on the tongue and lips, but they ſoon diſappeared.

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On the 19th, the ſloughs on the metatarſus having come away, and the child appearing in other reſpects to be going on well, the quantity of decoction of bark given in the courſe of the day, was diminiſhed to four ounces, and the confectio cardiaca was omitted.

On the 25th, the ſloughs from the hand ſeparated, when the little finger, and two joints of that next to it, came away on the dreſſings; five days after, one joint of the middle finger came away in like manner: and, on the 32d day, the child was taken from the hoſpital. I had occaſion to ſee it again ten days after that time, and it was then in perfect health.

In the treatment of children attacked with eryſipelatous complaints ſoon after their birth, it has been uſual at the Britiſh Lying-in hoſpital, to adminiſter the bark *per anum*, as well as by the mouth; but this child ſwallowed ſo much of it, and it agreed ſo well with him, that we thought we might ſafely truſt to what we found him able to take that way,

V. *An Account of the Species of Eryſipelas deſcribed in the preceding Paper, as it has appeared in Infants at the Britiſh Lying-in Hoſpital. By* MAXWELL GARTHSHORE, M.D. F.R.S. *and* S.A. *Fellow of the Royal College of Phyſicians in Edinburgh, and Phyſician to the Britiſh Lying-in Hoſpital. Read February* 8, 1785.

THE truly uncommon caſe related in the preceding paper, with the utmoſt fidelity, by my late worthy colleague, is highly intereſting; not only as it minutely deſcribes the alarming ſymptoms and progreſs of a dangerous inflammatory diſeaſe, which has been but ſeldom obſerved to affect infants, (and particularly before they have come into the world); but alſo as it points out a method of cure, which we have for many years found to be generally ſucceſsful at the Britiſh Lying-in Hoſpital, and which may probably be found ſucceſsful in ſimilar inflammations. It may not therefore be amiſs in this place to ſubjoin a ſhort account of our preceding obſervations and experience in this ſingularly dangerous diſeaſe.

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I well remember that when it firſt occurred, after I became Phyſician to the Hoſpital in 1766, the late Dr. Hunter told me, they had tried various modes of treatment, both of the antiphlogiſtic and ſtimulant kinds, without being able to determine which was preferable; and that the diſeaſe was ſo fatal, that few or none who were ſeverely attacked with it eſcaped. I ſaw very few inſtances of it for the firſt eighteen months, and thoſe proved fatal.

The firſt ſucceſsful caſe being remarkable, I will briefly relate it from the Journal I kept at the time.

April 10th, 1768. The infant of Sarah Wing, then ſix days old, was obſerved to have a broad eryſipelatous inflammation round the newly ſeparated navel, which appeared to us to be of that kind, which in all the preceding caſes had been found fatal. But having in the laſt inſtance obſerved this inflammation to terminate in gangrene, and Dr. Underwood, then one of our ſurgeons, having ſuggeſted the uſe of the bark, at that period, we agreed to give it, and found the life of the child ſo much longer protracted than any of the former, that we determined

determined to exhibit it from the beginning in the very firſt caſe that ſhould occur. Being afraid, under circumſtances ſo threatening, to truſt to the quantity of bark a child could be made to ſwallow, we ordered glyſters of a ſtrong decoction, and extract of it to be thrown up every ſix hours; and ſaturnine applications being at that time much in uſe, we directed the ſaturnine ointment to be applied to the parts affected morning and evening. At this time the inflammation had ſpread over the whole abdomen, and was of a deep red colour, eſpecially towards its centre round the navel, which appeared raw and bloody. The inflamed ſkin was hard, and ſeemingly very painful when touched; inflammation had alſo extended over the penis and ſcrotum, which were much enlarged, and beginning to grow hard.

At the end of two days, under this treatment, the inflammation ceaſed to ſpread; the child was obſerved to ſuck and ſleep well; and on the ſeventh day from the commencement of this courſe, the danger ſeemed entirely over.

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On the ninth the glyſters were thought no longer neceſſary; and by the twelfth day the child was nearly well, without either ſlough or digeſtion from the navel, or any other part.

As it was thought by ſome, that the ſucceſs of the preceding, and of ſome other caſes that followed, was more owing to ſaturnine applications than to the bark, and as there ſeemed in general to be no high degree of fever, a poultice with Goulard's vegeto mineral extract had been in one caſe preſcribed alone, and it ſeemed to cure the diſeaſe topically wherever it was applied: but the inflammation conſtantly re-appeared in other parts, and gradually ſpread over the whole body and limbs, which laſt became ſtiff and pale; the child's appetite was deſtroyed, its ſtrength impaired, and death, preceded by univerſal tenſion, ſoon followed.

We therefore determined, to truſt entirely to the internal uſe of the bark, and the external uſe of the common fomentation, in which ſoap was diſſolved. Accordingly to the child of —— Hatton, which was ſeized, in December 1769, on the ſixteenth day

day from its birth with an inflammation of the labia pudendi, extending down the whole lower extremities to the feet, we directed that glyſters of a ſtrong decoction of bark ſhould be adminiſtered every three or four hours; and that as much as poſſible ſhould alſo be got down by the mouth. The common fomentation with ſoap was likewiſe applied twice a day.

By this treatment the child was ſo nearly well on the eleventh day, that it was then taken from the Hoſpital.

Theſe remedies, with the occaſional uſe of confectio cardiaca, we continued at the Hoſpital till the year 1783. During that period ſeveral caſes occurred, of nine of which (all dangerouſly affected) I have kept an accurate account. Six of thoſe patients recovered and the three who died ſeemed to be carried off ſo ſuddenly (one in twelve, and another in leſs than thirty-ſix hours), that it appeared neceſſary to have immediate recourſe to ſome topical application, which might mitigate the attack more ſpeedily than the bark internally could do.

Recollecting that Sydenham had uſed ardent ſpirits with aromatics in eryſipelas,

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and finding that ſpirituous embrocations with vinegar had been formerly uſed at the Hoſpital, with ſome appearance of ſucceſs, I was induced in July, 1783, to try the effect of an application of the ſame kind, in the child of —— Burton, who was ſeized on the tenth day after its birth with this ſpecies of eryſipelas. In this caſe the inflammation began at the navel, and ſpread all over the belly and thighs. I inſtantly directed all the parts affected to be embrocated frequently with camphorated ſpirit of wine, and at the ſame time ordered as much ſtrong decoction of bark to be thrown up by clyſters, and to be given by the mouth, as the child could bear. By this method a ſudden check was put to the inflammation, the child recovered much ſooner than any we had ever treated, and was perfectly well in a few days.

The ſame treatment alſo ſucceeded with the child of —— Onion, who was ſeized on the 15th of February, 1784, when eight days old, with an inflammation, which began in the neck, and ſpread over the hinder part of the head, and down the back. In this caſe, however, the inflammation terminated

in a tumor near the vertex, which came to ſuppuration.

Though all thoſe who were treated in this manner did not recover, yet in none of them did death follow the attack ſo ſoon as had ſometimes happened before we adopted this method.

I know but of four loſt in the Hoſpital ſince that time, and in all of them the inflammation ſeemed to be checked: in two of thoſe caſes the diſeaſe was far advanced before we ſaw them; and indeed to ſpeak more preciſely, I know of but one inſtance where this mode of treatment, when early and regularly purſued, has not proved ſucceſsful; and even in that, its efficacy in protracting life ſeemed conſiderable.

One of the four inſtances of fatal termination juſt now alluded to, was the infant of —— Winepreſs, who was ſeized on the eighth day after its birth with this inflammation on the left arm. Camphorated ſpirit was applied, and the decoction and powder of bark were exhibited in as great a quantity as could be given. The inflammation ſoon after ſeemed to terminate in an abceſs of the hand, which was opened, and pus evacuated; the arm, however, ſoon inflamed higher up, and

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matter again formed near the elbow: that was alſo evacuated, and both parts healed ſpeedily. The inflammation then ſeized the other arm, which ſwelled very much, but did not ſuppurate; it afterwards ſeized one leg, and then the other; and on the eleventh day of the diſeaſe, appeared to be ſurrounding the lower part of the trunk, and ſoon reached almoſt as high as the navel, being of a dark red colour, approaching to a livid purple. On the twelfth day the nates were covered with gangrenous ſpots, with pale interſtices; and the inflammation had ſpread higher to the roots of the hair, and round the neck. Notwithſtanding all we could exhibit, or apply, the child died on the thirteenth day of the diſeaſe.

On examining the body it appeared univerſally tenſe, but the ſphacelated ſpots were formed only on the nates and loins. On the ſtricteſt examination of the viſcera of the thorax and abdomen, no mark of inflammation was diſcovered. The diſeaſe appeared to have affected the ſkin *only*, and we could hardly perceive any morbid appearance in the cellular membrane.

In two other caſes the inflammation ſeized the genitals with ſuch violence,

that veſication and mortification came on ſo rapidly as to render all our endeavours ineffectual. One of theſe patients died on the third, and the other on the fourth day; and I think upon the whole, that more have died when the genitals were firſt affected, than when the diſeaſe attacked any other part.

In the fourth caſe, (the child of —— Handy) which happened in 1784, the diſeaſe put on an ambiguous appearance. It firſt ſeized the right parotid gland, which was ſwelled and painful to the touch, but with hardly any appearance of external inflammation. To this a bread and milk poultice was applied, and we did not ſee it till the next day, when a deep coloured redneſs and hardneſs had ſpread over the whole neck and external fauces, accompanied with a more ſevere degree of fever than uſual. The bark and ſpirituous applications had no effect; the child died in leſs than twenty-four hours after we ſaw it, and in little more than forty-eight after the attack of the diſeaſe. This child had been ſuckled by its mother, a ſeemingly healthy though delicate woman, and appeared to thrive for the firſt three weeks.

The child of —— Chilten, in December, 1778, appeared to have a ſlighter tinge of this

this redneſs ſpreading over all its limbs, attended with tenſion, ſtupor, inability to move or ſuck, and lay continually moaning, with an anxious Hippocratic countenance. It was ſupported by breaſt milk poured down its throat, and recovered during the uſe of frequent clyſters of a ſtrong decoction of bark, with confectio cardiaca, and the warm bath often repeated, in the courſe of ſeven days.

There is no diſeaſe in which I can ſpeak of the apparent good effects of the bark with more confidence than in this. Beſides what I have ſeen of its efficacy in the Hoſpital ſince the year 1768, I have had ſeveral opportunities of preſcribing it for the ſame appearances (though I think in a milder degree) in private practice. There I have ſeen the diſeaſe, after attacking ſucceſſively all the different parts of the trunk and extremities, at length yielding to the continued uſe of this medicine.

Reſpecting ſaturnine applications, I have only this to ſay, that although in ſome of our firſt caſes, where bark was given internally at the ſame time, they were thought to be uſeful; yet from a variety of inſtances that

have occurred ſince, I think I am juſtified in concluding, that when uſed by themſelves, they were ſo far from ſuſpending, that they ſeemed to accelerate the fatality of the diſeaſe. For this reaſon they have been laid aſide at the Hoſpital for many years.

This diſeaſe ſeems to bear a conſiderable reſemblance to the eryſipelas typhodes of Sauvages. Dr. Cullen conſiders this eryſipelas typhodes as a variety, differing only in degree from the eryſipelas veſiculoſum which he deſcribes * as a phlegmonic diſeaſe. If an inflammation, ſeemingly from a very different cauſe, and certainly requiring a very different treatment, may be conſidered as a variety only, the diſeaſe I have been deſcribing may, with equal propriety, be conſidered as another variety of the eryſipelas veſiculoſum, though we ſcarcely have ſeen any veſications except in the genitals.

Dr. Cullen, in one part of his works, § very properly obſerves, "eryſipelas ſæpe aliquid putridæ et gangrenoſæ indolis præ ſe ferre," and in another † acknowledges, that probably,

* Synopſ. Nos. Meth. Tom. ii. § Ibid.

† Firſt lines of the Practice of Phyſic. Vol. ii. P. 233.

bably an eryſipelas may ſometimes be attended with ſymptoms of putrid fever, and require the uſe of Peruvian bark; but he cannot, he adds, be explicit upon this ſubject, as ſuch putrid caſes have not come under his obſervation.

This muſt appear rather extraordinary to all who know the practice of this city—In St. Thomas's Hoſpital the free and ſucceſsful exhibition of the bark, has been long eſtabliſhed as a cure of thoſe fevers that are attended with eryſipelas, and I have myſelf ſeen its ſucceſs in private practice repeatedly.

At the time we firſt exhibited the bark to infants in 1768, we were not ſo well aſſured of its general efficacy in eryſipelas as we have been ſince; and the only thing new in the practice is the exhibition of the bark, and the application of camphorated ſpirit ſo freely to infants in the month.

Though reſolution was the moſt common termination of the diſeaſe in thoſe that recovered, yet in ſome it terminated favourably by ſuppuration, and in the preceding caſe, deſcribed by Dr. Bromfield, it terminated by the throwing off of ſloughs, which is the only inſtance I ever remember, of the child ſurviving, when the parts were ſo deeply affected.

Though ſuppuration was generally a favourable termination, yet it was always a doubtful one; for when theſe ſuppurations came to be repeated, the infant was generally deſtroyed.

Our attempts to inveſtigate the cauſe of this diſeaſe have been hitherto unſucceſsful. Though not apparently infectious, it has been more frequent at certain ſeaſons than others; but I never remember to have ſeen more than three or four inſtances of it in the ſame ſeaſon. We have ſeldom had two in the houſe at the ſame time, and never two together in the ſame ward. In a caſe of twins, ſuckled by the ſame healthy mother, and both thriving equally well for the firſt fortnight, I have ſeen one fall a victim * to this diſeaſe while the other eſcaped.

Mr. Graves, our ſenior ſurgeon, a very attentive and experienced practitioner, thinks this diſeaſe is frequently owing to the mothers having indulged themſelves in the uſe of ſpirituous liquors, and it is very certain that we found this to be the caſe in ſeveral inſtances, but in many others we could diſcover no ſuch cauſe, nor indeed any other; though

* This inſtance occured in private practice. I was not called in till the 13th day of the diſeaſe, and the child died on the 17th.

though upon the whole it has chiefly attacked the delicate children of weakly mothers *.

Among the writers who treat of the diſeaſes of infants, I have not found any deſcription of this inflammation, except what Dr. Underwood has mentioned †, as having happened in our hoſpital; and among the practical writers on eryſipelas, I have not been able to find any account of this affection, as attacking infants particularly, except in Hoffman ‡, who, in ſpeaking of the various parts attacked by eryſipelas, ſays; "Um-"bilicalem regionem in infantibus fre-"quentius infeſtat, ac inde per abdomen "ſpargitur, cum gravibus pathematibus, "funeſto ut plurimum eventu." He ſpeaks of it too, as common in pregnant women, and as an hereditary diſeaſe, but, in his treatiſe of the Diſeaſes of Infants, he never once mentions it.

I have

* Mr. Graves has ſince informed me that he has ſeen this diſeaſe ſeveral times in the poor-houſe of St. Margaret's pariſh, and that in every inſtance, he had diſcovered that the mother was addicted to the uſe of ſpirits; yet, it is well known, that children are often borne by women addicted to this pernicious habit without any ſuch diſeaſe happening.

† Treatiſe on the Diſeaſes of Children. 12mo London. 1784.

‡ Tom. ii. p. 99. § v.

I have not in any writer of obſervations met, even with a ſingle caſe, nearly approaching in ſimilarity to thoſe I have deſcribed, except one recorded in the Miſcellanea Curioſa, for the year 1684, by Joannes Burgius, as affecting his own daughter, which I have ſubjoined in the words of the original *: but, as this diſeaſe ended in deſ-

* Filiola mea primogenita, menſe Martis 1682 nata, præter corpus reliquum, quoad omnia membra, Dei gratiâ, bene formatum, ſiniſtram ſolùm manum *tumore gravi, rubro*, non ſplendente, deformem, ut aſtaci marini chelam potius, quam membrum humanum, referret, exhibuit, quo intra paucos dies diſcuſſo, benè habuit, neque ulla reſtitutæ ſibi manûs ab alterâ ſanâ remanſit differentia. Duabus a nativitate exactis ſeptimanis, ipſo Paſchatis feſto, calore præternaturali ex improviſo corripi ſentitur infans, et mox in malâ dextrâ intumeſcente ſubitò macula rubra erumpit eryſipelatodes ſecundùm omnes circumſtantias quæ non multò poſt naſum tranſcendens iſtumque ſimul obſidens pari quoque modo alteram cum labiis afficiebat. Evanidâ hâc per biduum facie, frons, exceptâ in ejus medio particulâ groſſi argentei magnitudine, et ſinciput eodem tumore et rubore deformabantur, ſtatimque occiput, collum, humeri, dorſum, brachia et manus idem experiebantur fatum, ſalvô manente pectore toto, quod cum frontis parte notatâ, et mento, ſolâ immunitate gaudebat. Notatu dignum eſt, morbo has partes affligente, graviſſime ægrotaviſſe puellam, de vita periclitantem, adeò enim omni vigore

deſquamation, after the manner of the worſt ſpecies of ſcarlet fever, under the uſe of medicines which we ſhould now reckon of little efficacy, if it deſerves to be conſidered as a diſeaſe of the ſame *genus*, it muſt, at leaſt,

vigore deſtituta vitali, ſubſidente quoque fontanellâ communi illo moribundorum infantum prognoſtico, vultum præ ſe ferebat Hippocraticum. Verſo tamen rerum ſtatu intra paucas horas vires proſtratas ægra recolligebat et detumeſcentibus membris modo dictis calamitate ſuâ defuncta videbatur. Sperabam etenim Roſam, quam in adultis aliquoties, & nuper demum in ſene ferè ſeptuagenario a capite incipere, nec ultra colli terminos progredi obſervaveram, in corpore tenello quoque circa iſthæc confinia ſubſtituram. Præter opinionem autem abdomen, lumbi, clunes et inguina brevi eandem ſubibant fortunam, et ex ejulatu quidem infantis maximo conſtitit, graviorem fuiſſe Inguinum, quàm præcedentium partium, dolorem, citiùs tamen hîc tumorem, ac alibi, ceſſiſſe, ob urinæ affluentis, uti conjicio, medelam, notavi. Tandem et hoc climate reſtituto in femoribus et pedibus omnis tragoedia læto cum eventu finita eſt, quæ per tres hebdomadas, et quod excurrit, durans omnes affectas partes in paroxyſmo plùs quàm triplo monſtroſè auctas, reddiderat, rejectiſque demum *ſquamis renovata cutis* emergebat. Medicamenta pauciſſima adhibere potui, bezoardica volatilia et fixa, pulveremque externum myrrhatum et modicè camphoratum. Valuit tamen ab eo tempore infans ex voto. *Vide* —Joh. Burgii *Obſ. de Eryſipel. rar. apud Miſcell. Curioſ. ſive Ephemer. Med. Phyſ. Dec.* II. *Ann.* 3. p. 334.

leaſt, be allowed to be a much milder ſpecies of the inflammation I treat of.

I think it is important to add, that this eryſipelas ought to be carefully diſtinguiſhed from another inflammation, ſomewhat ſimilar to it in appearance, but very different as to its attending ſymptoms, parts affected, and termination, of which we had a ſingular inſtance in the child of ——— Warwick, who, in June, 1773, was obſerved, after the firſt week, to be uneaſy and hot, to vomit a yellow fluid frequently, and to have fewer ſtools than is uſual for a child of that age. A gentle emetic was firſt given, after which manna was copiouſly poured down, and clyſters frequently exhibited: notwithſtanding which, his bowels were difficultly and ſcantily evacuated. Two days after, the abdomen was obſerved to be ſwelled, tenſe, painful to the touch, and had an inflamed appearance, which extended to the ſcrotum. Gentle aperients, clyſters, fomentations, and the ſemicupium, often repeated, were of no avail. He died on the twelfth day from his birth, and the fifth from the attack. On opening the abdomen, we found the appearances very ſimilar to what

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we had often obſerved in the true puerperal fever, viz. a purulent exudation covering the ſurface of the peritonæum, and an adheſion of many of the viſcera to this membrane, and to one another, from the diaphragm downwards, with ſome extravaſated fluid in the abdominal cavity. On laying open the ſcrotum, that alſo was ſwelled and inflamed; and we found purulent matter upon the ſurface of the epidydimis and teſtis on each ſide; the teſtes themſelves appearing inflamed. But though the chylopoetic and ſpermatic organs ſeemed to have undergone ſuperficial inflammation, there was no appearance of any tendency to mortification.

This inſtance of what we thought a true and extenſive peritonitis, appeared to us a very uncommon phenomenon in a child of that age.

VI. *Caſe*

VI. *Caſe of an unuſually large Abſceſs, ſeated between the Peritonæum and Abdominal Muſcles, from which the Matter appeared to be diſcharged, ſometimes by the external Opening, and at other times by Expectoration.* *By Mr.* CHARLES KITE, *Surgeon at Graveſend, in Kent. Communicated by* WILLIAM OSBORN, M.D. *Read Feb.* 22, 1785.

As faithful and accurate hiſtories of remarkable caſes are acknowledged to be of the utmoſt conſequence in practice, and as I have not been able to diſcover one ſimilar to the preſent in any medical work, I flatter myſelf the Society will not think it unworthy their attention.

On the 16th of Auguſt, 1784, I was deſired to viſit Mary Galloway, a married woman, aged thirty-ſix years.

Her chief complaint was a prolapſus uteri, which ſhe firſt perceived on recovering from a very quick labour in the year 1772; from which time it had gradually increaſed,

increaſed, and was now the largeſt and moſt complete I ever ſaw.

I was informed, that the day preceding my viſit, ſhe had been attacked with a ſlight ſhivering, ſucceeded by ſevere pain and ſoreneſs over the whole abdomen; the pain however ſoon abated, and by the time I ſaw her had entirely ceaſed.

As the uterus had been diſplaced ſo long, and was ſwelled ſo conſiderably, I prepared for its reduction by repeated gentle aperients, and frequent fomentations. After uſing theſe means a few days, I reduced the uterus, tho' not without conſiderable difficulty, and applied a ring peſſary, but it was forced away, and the uterus came down again in half an hour. Two days after I reduced it again, and applied a peſſary with a ſtem, ſecured (as I thought) very properly, with compreſſes and bandages, but it was equally ineffectual.

In a ſhort time the abdomen again became painful, and ſwelled conſiderably; and the prolapſus increaſed in proportion. After uſing fomentations, cataplaſms, &c. during four or five days, a fluctuation was evidently perceptible; a ſmall veſication appeared

appeared on the navel; and the next day there was an immoderate diſcharge of fœtid, acrid matter, from a ſmall opening in the umbilicus, juſt large enough to admit the head of a probe. This continued about twelve hours, in which time the quantity of matter evacuated amounted, as nearly as I could gueſs, to ten or twelve pints. I ſaw her half an hour after it had burſt, and on introducing my probe, as ſhe lay on her back, I paſſed it in a perpendicular direction quite to the point, and I likewiſe was able to paſs it under the integuments, and, as I thought, abdominal muſcles, in an oblique direction towards the anterior part of the left criſta Ilii.

Her pulſe, which beat from 130 to 146 ſtrokes in a minute, was irregular and extremely feeble: her tongue was covered with a thin, dry, browniſh ſordes; her teeth were free from moiſture, and white like a dead bone; her fleſh was greatly emaciated; and her whole countenance truly Hippocratic.

I obſerved above, that on introducing the probe, it paſſed immediately, and very readily

readily down towards the ſpine; next morning, when between ten and twelve pints were diſcharged, I found it impoſſible to paſs the probe in the ſame perpendicular direction, though it went very readily four or five inches towards the left ilium; ſo that, without exerting a greater degree of force, or examining more minutely, than we thought prudent, we could not determine whether the diſeaſe was, or was not, ſeated in the cavity of the abdomen.

Notwithſtanding the reduced ſtate my patient was in, and the little probability there ſeemed to be of her recovery, I did not heſitate to adviſe her to have the opening enlarged, with a view, not only of allowing a free exit to the matter, but likewiſe to give us an opportunity of aſcertaining the nature and ſeat of the diſeaſe, and in conſequence, determining what might be proper to be purſued in future: but all the arguments I employed were of no avail, as ſhe obſtinately perſiſted in refuſing to permit the uſe of the ſcalpel. She was alſo equally averſe to the application of a cauſtic or ſeton.

I therefore adviſed her to be kept as clean as her ſituation would allow, and the room to be properly ventilated; at the ſame time recommending ſuch a poſture as would facilitate the diſcharge of the matter; and directing an aſſiſtant to preſs in the courſe of the ſinuſes ſeveral times in the day.

For ſome time the patient's ſtomach had been ſo irritable, as not to retain the bark in any form, but now ſhe was able to take it, together with an anodyne at night. The uſe of theſe medicines was followed by more reſt at night, an abatement of the quickneſs of the pulſe, and ſome little inclination for nouriſhment.

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It gave me great pleaſure to perceive the advantage we gained from this mode of treatment, notwithſtanding the immoderate quantity of matter diſcharged during the firſt week; after which time the quantity of it daily leſſened, the fever abated, her ſtrength, ſpirits, and appetite, increaſed; and on the twenty-firſt day, from the time the abſceſs burſt, the wound was healed.

It was a conſiderable time before ſhe compleatly recovered her health, but ſeveral months

months are now elapſed, and ſhe has had no return of her complaint *.

During my attendance, I obſerved a circumſtance which ſurprized me not a little; it was this: at the time I firſt ſaw her, ſhe was troubled with a ſhort cough, which was at firſt dry, but on the third day after the abſceſs burſt, the matter from the opening almoſt ceaſed to flow, and ſhe expecto-

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* Since this paper was read, the Society have been favoured by Mr. Kite with the following particulars of the caſe, in addition to his firſt account.

"About ſix months after the date of my former account, the patient began to be affected with ſymptoms of pulmonary conſumption; and in the latter end of November, 1786, when I was again deſired to ſee her, I found her in the laſt ſtage of that diſeaſe.

"She informed me, that ſhe had not had either pain or ſwelling in the abdomen ſince I laſt ſaw her; and that the prolapſus uteri had occaſioned ſcarcely any inconvenience. On examining the abdomen, which, on account of her emaciated ſtate, I was enabled to do very accurately, there appeared for the ſpace of two inches round the navel, to be a complete opening through the abdominal muſcles down to the peritonæum; but the integuments were very ſound, and there had never been any tendency to a protruſion of the inteſtines.

"In a few days ſhe died. I lamented I could not aſcertain the preciſe ſtate of the parts that had been ſo peculiarly affected; but an unlucky concurrence of circumſtances prevented my opening the body."

rated a vaſt quantity of what appeared to me to be pus, mixed with frothy mucus, equal in meaſure, as was ſuppoſed, to the diſcharge which ought to have been evacuated from the wound in the ſame time. This expectoration, the firſt time, continued twenty-four hours, and it afterwards returned ſeveral times, laſting from ſix to eighteen hours each time: it would then nearly ceaſe, and the matter would ſoon after run as freely as before from the wound. This expectoration of pus alternating with the diſcharge from the opening, continued till the wound almoſt healed, and then finally ſtopped. The two diſcharges never occurred, except in a very trivial degree, at the ſame time.

The circumſtances of this caſe render it very probable, that the tumor was not encyſted, but that it was ſeated between the peritonæum and abdominal muſcles. Suppoſing this to have been the caſe, it may ſeem wonderful, that the diſcharge ſhould not have made its way into the cavity of the abdomen, rather than by the umbilicus: however, when we recollect that the external lamina, or what may be more properly called

called the cellular ſubſtance of the peritonæum, is in ſome ſubjects a very thick and firm membrane, and that the integuments are much thinner at the umbilicus, than at at any other part of the abdomen, it will in a great meaſure relieve us from this difficulty.

How the prolapſus uteri was increaſed to ſuch a ſize when the matter was formed, and why it became ſo much ſmaller than it had been for four or five years before, as ſoon as the matter was evacuated, I am at a loſs to determine.

Graveſend, January 14, 1785.

VII. *A Caſe of total Extirpation of the external Parts of Generation.* By WILLIAM SCOTT, M.D. *Phyſician at Stamfordham, in Northumberland. Communicated by Dr.* GRAY. *Read March* 8, 1785.

Mr. W. P. a farmer of this pariſh, aged ſeventy-five years, had been for ſome time in a ſtate of melancholy, when one morning blood was obſerved about his bed; and on enquiry it was found, that with a ſharp knife he had cut off the penis, ſcrotum, and teſticles, cloſe to the abdomen. A linen cloth was immediately applied, and held to the part, and when I ſaw him, which was about four hours after, I found that the hemorrhage had ceaſed.

Common dreſſings were applied to the wound. At firſt he complained of little or no pain, but at the end of two or three days the flow of urine on the wound occaſioned conſiderable uneaſineſs. To obviate this, he was adviſed to place himſelf on his knees, and, after looſening the bandage, and removing the lint from the orifice of the urethra,

urethra, to try to make water in that poſition. In this way he found himſelf able to diſcharge urine with great eaſe, and even to project it ſeveral inches from his body; he therefore continued to adopt this method till he was well, and never after complained of the urine's falling on the ſore parts.

The cure went on without any fever or other unfavourable ſymptoms; and at the end of about ſeven weeks the wound was compleatly healed: a ſmall prominence or elevated circular ring being formed around the orifice of the urethra.

Did he lose his beard?

VIII. *Obſervations on the Uſe of Opium in the Venereal Diſeaſe. By Mr.* JOHN PEARSON, *Surgeon to the Lock Hoſpital, and to the Public Diſpenſary. Read June* 28, 1785.

As the alleviation of human miſery, is the grand object of the art of phyſic, every propoſal that tends to facilitate ſo important a deſign, is highly worthy of attention. But it is a well known fact, that in our attempts to remove diſeaſe, we are often obliged to have recourſe to very active remedies, whoſe ſalutary properties it would be deſirable to obtain in a ſimple unconnected form. The certain efficacy of ſuch medicines renders them a very valuable acquiſition; yet a variety of circumſtances concur, to prevent us from always obtaining the whole of their advantages. Among ſuch articles of the materia medica, mercury in a ſimple and combined form has long maintained a high reputation. It has been regarded as the only ſpecific to be depended upon, in the cure of lues venerea.

Prac-

Practitioners, however are aware, that effects unfriendly to the animal œconomy ſometimes reſult from its uſe; and inſtances do occur wherein our beſt efforts are baffled by idioſyncraſy. Under ſuch circumſtances, it becomes an object of great conſequence to be acquainted with a remedy, whoſe efficacy in the cure of ſyphilis is equally to be depended upon, and the adminiſtration of which, will never be attended with injury to the conſtitution. Some accounts tending to prove that opium poſſeſſes theſe qualities, have been preſented to the public, to the end, that its merit might be more accurately inveſtigated. In concurrence with ſo laudable a deſign, I beg leave to offer to the Society an account of ſome experiments made with opium, in a few caſes of lues venerea.

To aſcertain the ſpecific power of opium in deſtroying the venereal virus, it is neceſſary, 1ſt. To adminiſter it in caſes truly venereal. 2dly, To be ſure, that no mercury has been previouſly exhibited. 3dly, The cure ought to be permanent. 4thly, The number of negative inſtances ought not to exceed thoſe which attend the adminiſ-

tration

tration of mercury. 5thly, As the poſſeſſion of thoſe qualities would only place its merits on a level with thoſe of mercury, it becomes neceſſary in order to prove its ſuperiority, that leſs diſturbance be produced in the ſyſtem during the adminiſtration of opium, and that the conſtitution ſuffer leſs permanent injury. In trying this remedy, I have been careful to ſelect ſuch ſubjects as had not taken any mercury; and always premiſed bleeding and a purgative, before the adminiſtration of the opium.

CASE I.

William Williams, aged twenty-four years, came under my care, January 1ſt, 1785. About ſix weeks before this he had contracted a gonorrhoea, and a chancre on the glans penis; and at the time I firſt ſaw him, had an open bubo, a phymoſis, and an ulcer on the prepuce.

Jan. the 3d, he was directed to take one grain of extract. theb.

On the 4th, the doſe was increaſed to two grains. He complained of great drowſineſs

fineſs throughout the day; but there was no particular alteration in the excretions.

On the 9th, the quantity of extract was augmented to ſix grains *per diem*. He bore the medicine very well, and his complaints were better.

On the 15th, eight grains were ordered to be adminiſtered throughout the day, which ſeemed to be the largeſt quantity he could bear. His head was a good deal affected, and he was very drowſy. The venereal ſymptoms were much better.

On the 24th, he continued the pills regularly, without finding their effects at all diminiſhed. All his complaints were nearly well.

Feb. 12th, he was directed to take ten grains of the extract *per diem*. This doſe was perſiſted in till the 18th, when he was diſmiſſed, cured.

A common bread and milk poultice was applied to the bubo; and milk and water was injected between the glans and prepuce ſeveral times a day. His pulſe was very little affected during the courſe; but he evacuated his urine in ſmall quantities for the laſt five days.

CASE

CASE II.

Catharine Smith, aged eighteen years, contracted a virulent gonorrhoea two months before ſhe came under my care; and when I firſt ſaw her ſhe had alſo ſome ulcers on the labiæ pudendi.

December 11th, 1784. She began with taking one grain of extract Theb. twice a day; and, on the 13th, the doſe was increaſed to two grains each time.

16th. The opium not having produced any ſenſible effect, the quantity was augmented to eight grains *per diem*. She now complained of ſevere pain in the head, accompanied with giddineſs, and ſickneſs at the ſtomach. As ſhe was coſtive, an opening medicine was given, which relieved the moſt preſſing ſymptoms. Her venereal complaints were much better.

Jan. 1ſt. She was attacked with a fever, attended with a delirium, which obliged us to diſcontinue the opium.

7th. Being much better, ſhe was ordered to take four grains of opium *per diem*.

The

The feveriſh ſymptoms returned ſoon after the adminiſtration of the opiate.

10th. Being conſiderably better, ſhe was ordered to begin with one grain in the day.

11th. The fever and delirium were reproduced by the firſt doſe; ſo that it was entirely diſcontinued.

20th. All her complaints had diſappeared, and ſhe was diſmiſſed, cured. No external applications were uſed in this caſe.

CASE III.

Thomas Jeffers, aged forty years, had contracted, about ten months before I firſt ſaw him, the venereal diſeaſe. The firſt ſymptoms of it were chancres on the glans penis, ſucceeded by an enlarged gland in the groin; but theſe complaints had gradually diſappeared without the uſe of any remedies.

When he firſt came under my care, he had copper-coloured ſpots on different parts of his body, and nocturnal pains in the bones. He had likewiſe a ſlight ophthalmia;

mia; but this ſeemed to be the effect of expoſure to cold.

Nov. 29, 1784. After going into the warm-bath, he was ordered to take a grain of Thebaic Extract, morning and evening. His eye was waſhed ſeveral times a day with vegeto-mineral water.

Dec. 1ſt. He was very reſtleſs laſt night, and complained this morning of great pain in his head, accompanied with giddineſs; he was coſtive, and had a white tongue. The eye was alſo more painful than when he began the uſe of opium. The Thebaic Extract was ordered to be continued in the quantity of one grain twice a day, and he took a doſe of an opening electuary occaſionally.

2d. He had two looſe ſtools; ſlept ill in the night; and the pain and giddineſs in his head were not at all alleviated. The Thebaic Extract was continued.

3d. He was much the ſame as yeſterday, and was now ordered four grains of the extract in the day.

4th. The eruptions were beginning to look dry upon their ſurfaces; and his other complaints

complaints were not augmented by encreaſing the doſe of opium.

10th. The eruptions were gradually diſappearing. The effects of the opium were much as before.

14th. He now took eight grains in the day.

16th. He complained exceedingly of giddineſs and pain in the head, but the eruptions were nearly gone.

20th. Freſh eruptions began to appear: the pains in his bones were nearly gone.

It did not appear prudent to raiſe the doſe of opium beyond eight grains in the day, as the pain in his head was exceedingly troubleſome. He continued to take this quantity till January 15th, when he requeſted earneſtly to diſcontinue its uſe, from the very great uneaſineſs it occaſioned both in his head and ſtomach. The latter crop of eruptions was not at all diminiſhed in number; but he was free from nocturnal pains.

As theſe eruptions had not all the characteriſtics of the true venereal ſpot, I did not urge the uſe of mercury. He was requeſted

queſted to call upon me in the courſe of two months, but I have not heard of him ſince.

CASE IV.

Sarah Simpſon, aged ſeventeen years, had been attacked about a month before I firſt ſaw her, with a virulent gonorrhoea. This had been ſoon ſucceeded by the enlargement of a gland in her left groin, which had ſuppurated quickly, and burſt ſpontaneouſly about ten days before ſhe came under my care. The edges of the bubo were inflamed and tumefied, the ulcer deep, and its ſurface very foul. She had not taken any medicines.

Nov. 26th, 1784. Eight ounces of blood were taken away, and ſhe took a doſe of ſalts on the 27th.

29th. She was ordered to take one grain of Thebaic Extract twice in the day, and to apply a poultice of bread and milk to the bubo.

30th. She ſlept well, and did not feel any particular effect from the opium.

Dec. 1ſt. The ulcer was much eaſier, and ſhe ſlept well. The Thebaic Extract was repeated.

2d. She

2d. She complained of giddineſs and pains in the head; her bowels were very uneaſy, and ſhe had ſeveral looſe ſtools, accompanied with ſevere gripings. A laxative was ordered, and ſhe continued the Thebaic Extract.

3d. The diarrhœa and gripings were much better; but her head was not relieved, and ſhe vomited up every thing ſhe took. Four grains of the extract were ordered to be given in the day.

4th. The vomiting had nearly ſubſided, but a ſlight diarrhœa ſtill remained. Her bubo was eaſy and began to look cleaner.

6th. A lymphatic gland in the right groin began to enlarge and grow painful; in other reſpects ſhe was much the ſame as before.

8th. The diarrhœa and uneaſineſs in her ſtomach were no longer troubleſome. The bubo began to heal very kindly. She was ordered to take ſix grains of the extract in the day.

12th. She ſtill continued to grow better; the quantity was therefore increaſed to eight grains.

16th. Soon after ſhe had taken eight grains in the day, her head was much affected, and ſhe complained of ſickneſs. The ſwelling in the right groin gradually leſſened.

21th. The bubo was almoſt healed, and the other gland had nearly recovered its natural ſtate; but ſhe was ſo much affected with the eight grains of opium in the day, that it did not appear ſafe to augment the quantity.

27th. Small ulcers begin to appear within the labiæ pudendi.

Jan. 3d. She had continued to take eight grains of the extract every day, which was as large a quantity as ſhe could bear. The ulcers were very much enlarged, were become extremely painful, and had aſſumed the true chancrous appearance. A lymphatic gland on the right ſide was alſo enlarging, and had become very painful. I therefore ordered her to ſuſpend the uſe of opium and to begin with mercury.

The ſores preſently began to alter their appearance, the gland ſubſided, and ſhe was diſmiſſed cured Feb. the 7th.

CASE

CASE V.

William Fitzgerald, aged twenty years, came under my care December the 2d. Five months before this period he had contracted a virulent gonorrhoea, which was ſucceeded by an enlargement of glands in the left groin. He had, at this period, a very large ſuppurated bubo. This was the firſt time of his being infected by the venereal virus; and he had not taken any medicines.

Dec. 7th. The bubo was opened with the ſcalpel, and he began to take one grain of Thebaic Extract evening and morning.

8th. No particular effects were produced, he was therefore ordered to increaſe the quantity of extract to four grains in the day.

10th. There being no ſenſible alteration in his complaints, he was ordered to take ſix grains of the extract per diem.

11th. His head was a little affected.

12th. The doſe was augmented to eight grains per diem. This quantity produced giddineſs, and conſiderable pain in the head.

He was therefore ordered to take a doſe of an opening electuary occaſionally.

Jan. 6th. From the time that the doſe of opium was encreaſed to eight grains a day, he complained greatly of pain in his head, and ſickneſs at his ſtomach. No particular increaſe or diminution of the excretions was perceptible. The diſagreeable effects of the medicine now began to encreaſe; he had great difficulty in breathing, with a ſenſe of tightneſs acroſs the cheſt, and his general health was declining very faſt. The ulcer had never ſhewn any diſpoſition to heal; it was much larger than it was three weeks ago; the edges were callous and ſerrated; a conſiderable hardneſs ſurrounded the whole ſore, and ſeveral ſinuſes were forming in different directions. He was therefore ordered to ſuſpend the uſe of opium, and to begin with mercury.

Appearances ſoon began to change for the better; his health amended daily; and in about five weeks from this period he was diſmiſſed, cured.

CASE

CASE VI.

James Marlow, aged twenty-ſix years, came under my care November the 27th, 1784, having ten months before contracted a virulent gonorrhœa. At the time I firſt ſaw him he had a gonorrhœa, with ſeveral venereal ulcers on the corona glandis, and an enlarged gland in the left groin.

28th. He was ordered to take two grains of Thebaic Extract in the day.

30th. As there were no ſenſible effects from the extract, he increaſed the doſe to four grains in the day. He complained of giddineſs in the head, and great drowſineſs. His groin was painful, and he had two looſe ſtools. As there was no particular alteration in his ſymptoms, he was ſoon ordered to take ſix grains *per diem*.

14th. His head was ſo much affected by taking ſix grains in the day, that I had not thought it proper to augment the quantity. The ſores were quite healed, but he complained of a little tenderneſs in the groin.

He was now directed to take eight grains in the day.

17th. The gland had almoſt recovered its natural ſtate. In other reſpects he was much the ſame as on the 14th.

21ſt. He was free from all complaints, but thoſe ariſing from the opium.

27th. He ſtill continued to take eight grains a day very regularly; and the ſenſible effects of the medicine were not at all diminiſhed. He complained of ſoreneſs on the corona glandis; the part was inflamed, and the ſkin appeared diſpoſed to ulceration.

Jan. 2d. The gland in the groin was enlarging very rapidly. He was ordered to perſiſt in the uſe of opium.

5th. There were four venereal ulcers at the poſterior part of the corona glandis, and on the internal ſurface of the prepuce, which increaſed every day. Two diſtinct lymphatic glands were enlarging and painful; one in the left groin, the other on the upper part of the thigh, on the ſame ſide. He was therefore ordered to diſcontinue the opium, and to begin to uſe mercury.

15th. The gland in the groin being completely ſuppurated, was opened by cauſtic.

He was diſmiſſed cured, Feb. 17.

CASE

CASE VII.

Elizabeth Smith, aged nineteen years, came under my care January 6th, 1785. She had been infected about a month before. The firſt ſymptoms that appeared were gonorrhœa virulenta, and an enlarged gland in the groin. At this time ſhe had the ſame ſymptoms, chancres within the labiæ pudenda, and venereal eruptions.

Jan. 9th. I directed her to take two grains of Thebaic Extract in the day.

10th. As no ſenſible effects were produced, ſhe encreaſed the doſe to four grains.

14th. The doſe was encreaſed to eight grains in the day, and her venereal complaints were much the ſame as on January the 6th.

February 1ſt. Her head was a little affected by the opium, but there was no alteration in any other reſpect. She was now directed to take twelve grains in the day.

4th. She began to complain of headach and giddineſs; the ſame doſe was ſtill continued.

10th. The venereal complaints were neither better nor worſe, and the opium diſagreed with her ſtomach. She was ordered to diſcontinue its uſe, and to enter upon a courſe of mercury.

CASE VIII.

James Pilkington, aged twenty-three years, came to me, December 2d, 1784, with an open bubo. He had never taken any mercury. Two grains of Thebaic Extract were ordered to be taken per diem.

4th, He complained of a little pain in his head. The doſe of opium was augmented to four grains in the day.

6th. There was an increaſe of pain and giddineſs, but no alteration in the ſtate of the bubo.

9th. He ſtill complained of his head; I, however, increaſed the quantity to ſix grains. This augmentation produced a good deal of giddineſs and pain in the head, and

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an inceſſant vomiting. His health alſo began to decline. The opium was therefore diſcontinued.

It is now above two years ſince I firſt began to try the efficacy of opium as an antivenereal remedy. The only caſes in which it ſeemed to ſucceed with me, are now made public; in every other inſtance, either of ſyphilis or gonorrhoea, the event has proved unſucceſsful.

I did not apply a ſolution of opium to the venereal ſores, becauſe the healing of theſe by external applications, would have rendered the virtues of the new remedy leſs conſpicuous. When mercury is properly introduced into the ſyſtem, this kind of ulcer will frequently get well by the moſt ſimple applications.

There is a very ſtriking difference in the degree of ſucceſs which has attended the uſe of opium. In Medical Communications, vol. 1ſt, the ſucceſsful caſes are ſaid to be three to one; I have not found it advantageous once in ten times; and in thoſe caſes where it was apparently uſeful, I

ſtrongly

ſtrongly ſuſpect that they were not truly venereal *.

The moſt experienced practitioner cannót always give a decided opinion, that a patient *is* or *is not* tainted with the ſyphilític virus. Whén the hiſtory and collateral circumſtances have rendered it probable, it is uſually ſafe to act upon ſuch a preſumption. But when a new medicine is propoſed as a ſpecific, in the cure of this dreadful diſorder, we are authoriſed to expect

* It has been very common to confound gonorrhoea with ſyphilis; and to call the ſymptoms of each by the general name of *venereal* ſymptoms; but a real difference ſubſiſts between the two, although the diſcrimination is not always obvious. Among the caſes I have related, that of William Williams bears ſome marks of having been a *truly* venereal one; but thoſe of Catharine Smith and Thomas Jeffers are not perfectly unequivocal.

Were I to criticize upon the caſes publiſhed by Dr. Michaelis *, I ſhould point out fifteen of them, as being unfit for the purpoſe of proving the efficacy of opium in lues venerea, viz. Caſes the 2d, 4th, 5th, 6th, 7th, 9th, 10th, 11th, 14th, 15th, 16th, 17th, 19th, 20th, and 21ſt. In many of thoſe patients the ſymptoms were not clearly venereal; and ſeveral of them had previouſly been taking mercury. The quantity indeed was not conſiderable—but I have oftener than once, ſeen a very bad caſe permanently cured, by rubbing in two drachms of mercurial ointment.

* See vol. i. of this work.

pect ſomething more than a preſumptive evidence of its efficacy. Mercury, properly adminiſtered, ſcarcely fails three times in five hundred of thoſe caſes which are commonly regarded as venereal. The proof of its ſpecific powers, therefore, almoſt amounts to a certainty. But if opium fails as often as it ſucceeds, which is granting a great deal more than experience will warrant; it ought to be regarded as a remedy of very doubtful efficacy. Decoctions of Guaiacum, China-root, Sarſaparilla, &c. have been highly celebrated as anti-venereal remedies; and their virtues were warranted by men of great reputation. We have now, however, learnt to diſcriminate between their real and apparent merits; and never depend upon their ſingle efficacy in the cure of lues venerea.

It has been the cuſtom for many years, to give opium either alone, or joined with antimony or decoctions of the woods, to remove ſome of the troubleſome ſymptoms that often remain, after the venereal virus is deſtroyed. I have frequently employed it with advantage during the whole courſe of mercury; but experience does not permit

mit me to depend upon its powers in caſes truly venereal.

With regard to the comparative effects of opium and mercury on the conſtitution, I think it right to obſerve, that the exhibition of the former was accompanied with as many troubleſome attendants as the latter. I have very few charges to produce againſt mercury; and am fully perſuaded that when it is prudently adminiſtered the conſtitution rarely ſuffers any permanent injury. That very pernicious conſequences daily reſult from its general and unqualified uſe, is a fact readily admitted; but this muſt be almoſt ſolely attributed to that encouragement of empiriciſm which diſgraces the metropolis.

In attempting to aſcertain the powers of any article of the materia medica, it is highly neceſſary to diſcriminate its proper and direct effects, from thoſe which are only ſecondary or accidental. It was long ago obſerved, that opium ſometimes proved purgative *; and, from later obſervations, this appears to ariſe from an accumulation of this drug in the inteſtinal canal. The moſt proper remedy

* See Alſton on Opium. Med. Eſſays. Edinb. vol. v. p. 114.

remedy againſt ſuch a diarrhoea, is the exhibition of a cathartic. But theſe facts are far from invalidating the general opinion, that "opium induces coſtiveneſs;" for the diarrhoea is a conſequence of accumulated fœces in the inteſtines. That opium diminiſhes all the ſecretions, except perſpiration, hath been hitherto regarded as an authentic maxim. My own experience has uniformly coincided with it. We ought, therefore to have well atteſted proofs of its diuretic and ſalivating powers, before any inferences can be deduced of a practical nature, from a propoſition ſo apparently paradoxical.

IX. *An Account of the favourable Termination of a Wound of the Stomach. By Mr.* WILLIAM SCOTT, *Surgeon of the Navy. Communicated by* JAMES CARMICHAEL SMYTH, M.D. *Fellow of the College of Phyſicians, and of the Royal Society; and Phyſician Extraordinary to the King. Read November* 15, 1785.

During the election for Weymouth, in March 1784, Charles Thomas, a ſeaman, aged twenty-five years, and of a ſtrong and healthy conſtitution, had the misfortune to receive a thruſt with a ſmall ſword on the left ſide of his body. The ſword paſſed in between the ſecond and third of the lower or falſe ribs, and penetrated into the cavity of the abdomen, in an horizontal direction, to the extent of more than five inches, as appeared afterwards by the mark upon the blade.

I ſaw him about half an hour after the accident. His whole appearance was then much altered, his countenance being quite collapſed, and covered with a cold ſweat; whilſt the pulſe at his wriſt was ſcarcely perceptible:

ceptible: he had alſo a conſtant hiccough, a frequent retching and vomiting of blood, and a conſiderable diſcharge of blood and other fluids from the external wound.

From the place and manner in which the ſword had entered, and the ſymptoms that followed, I was led to conjecture, that the ſtomach was wounded; and that this was certainly the caſe I was ſoon convinced, on examining the fluid diſcharged by the external wound, and finding in it ſeveral ſmall pieces of meat in a ſoft digeſted ſtate, together with ſome particles of barley.

He had complained of thirſt, and ſome barley-water had been given him to drink; but this had been immediately thrown up after paſſing the oeſophagus. Other mild fluids were now tried, as were likewiſe a common ſaline draught, in an effervescent ſtate, and ſome thebaic tincture, but with no better effect, as they were all inſtantly rejected tinged with blood.

The retching and action of the ſtomach continuing to be very violent, and the patient complaining at the ſame time of a lump or dead weight, as he termed it, in his

his inſide, he was deſired to drink ſome warm water: this was ſoon thrown up, accompanied with a good deal of barley, in ſolid grains, with the ſurface ſlightly broken, and ſome pieces of meat in a half-digeſted ſtate. More water being given to him, it was quickly returned, ſlightly tinged with blood, but in other reſpects nearly as pure as when ſwallowed.

I now propoſed, that we ſhould avoid giving any thing farther by the mouth; but as the ſpaſms and hiccough were ſtill very frequent, an emollient clyſter was adminiſtered, by which a conſiderable quantity of fœces was diſcharged. Soon after this another clyſter, conſiſting of twelve ounces of barley-water, and two drachms of thebaic tincture, was thrown up, and the greater part of it retained. Warm fomentations were likewiſe applied externally; the ſurface of the wound was looſely dreſſed; and he was deſired to lie as much as poſſible upon the injured ſide, with a view to favour the diſcharge.

On the firſt of April, the day after the accident, the ſymptoms were ſtill very unfavourable. His pulſe continued to be very

low

low and languid, with a great proſtration of ſtrength, and a coldneſs of the extremities. He had had ſeveral rigors towards morning, and the ſpaſms were ſometimes very violent. He complained of extreme coldneſs over his whole body; and of a conſtant gnawing pain about the pit of his ſtomach, to which part warm fomentations were frequently applied.

A laxative clyſter was again adminiſtered, which was followed by a copious diſcharge; ſoon after this another clyſter, conſiſting of fourteen ounces of veal broth, and two drachms of thebaic tincture, was thrown up, and retained. A ſimilar clyſter was repeated in about four hours with the ſame effect. Flannels dipt in warm milk and water were occaſionally applied to his arms and legs, and hot bricks to the ſoles of his feet. He made a little water twice in the courſe of the twenty-four hours; this was high-coloured, and depoſited no ſediment, though kept for a conſiderable time.

April 2d. He had paſſed a reſtleſs night, and now complained of intenſe thirſt. The hiccough and ſpaſms were leſs frequent, but he ſuffered much from a conſtant burn-

ing pain in the lower part of his ſtomach. His pulſe was ſmall, and beat about 120 ſtrokes in a minute. The fomentations were applied as uſual, and ſix drachms of the *ſal. cathart. amer.* were diſſolved in ſome broth, and thrown up into the bowels as a laxative. This produced a conſiderable diſcharge of ſoft ſlimy fæces, in which were ſeveral ſmall pieces of clotted blood enveloped in mucus. After this, in the courſe of the day, three clyſters of broth and thebaic tincture were thrown up and retained. He was deſired to uſe the pulp of an orange, occaſionally, to allay his thirſt; and to waſh his mouth frequently with barley-water acidulated with lemon juice.

April 3d. I was called to him early in the morning, and told he was at the point of death. A clergyman had been ſent for at the ſame time to perform the laſt offices. The nurſe informed me, that while ſupported in bed to waſh his mouth, he had been ſeized with a violent retching accompanied with convulſions of the cheſt, but that nothing had been diſcharged from his ſtomach, except a ſmall quantity of bloody fluid. When I ſaw him the ſpaſms ſtill continued; his fore-

head

head and breaſt were covered with a cold ſweat; his pulſe was low, and intermitted ſo that it could only be felt at intervals; and his ſtrength ſeemed to be quite exhauſted. Warm fomentations were immediately applied to the region of the ſtomach, and as there was always ſome of the veal broth kept in readineſs, I threw up about fourteen ounces of it, with two drachms of thebaic tincture. The violence of the ſymptoms was ſoon moderated, and he appeared very languid, and ſhewed a diſpoſition to ſleep.

When I ſaw him about four hours afterwards, I was told that he had enjoyed ſome reſt. His pulſe was now regular, but ſmall and quick; he was very weak, and juſt able to inform me that, in waſhing his mouth, he had accidentally ſwallowed ſome of the liquor, and that this had thrown his ſtomach into violent action. About a pint of the broth was now injected by way of clyſter, without any addition. This was likewiſe retained, and repeated at intervals of five or ſix hours. He now made water frequently, which, upon ſtanding, depoſited

a conſiderable quantity of ſediment, of a light brick or ſtraw colour.

April 4th. The hiccough, retching, and other unfavourable ſymptoms, were now entirely gone; but he ſtill complained of a fixed pain in his ſtomach, accompanied with a ſenſation of heat, and of a ſoreneſs of the injured ſide, extending from the wound towards the middle of the abdomen. He was likewiſe troubled with thirſt; and his pulſe was ſmall and about 110. The external wound had now begun to yield a diſcharge of good matter.

The ſame mode of treatment was continued, and the ſymptoms became daily more favourable. The broth was adminiſtered in clyſters, to the amount of two quarts or five pints a day. The fomentations were continued externally, and his feet and hands were frequently bathed in warm milk and water. He voided his urine regularly, and in about the proportion of three pints in the twenty-four hours, though it ſometimes conſiderably exceeded this quantity, and continued to depoſit a great deal of ſediment. A little of the *ſal. cathart. amar.* was occaſionally added

to

to the clyſters, in order to ſtimulate and cleanſe the inteſtines; after the fourth day, however, there was ſcarcely any fæculent matter diſcharged, but only a ſmall quantity of viſcid bile.

On the tenth day from the time of his being wounded, he appeared to be very ſenſibly relieved; his thirſt and febrile ſymptoms were much abated, and his pulſe was regular and about 90. As he was in good ſpirits, and expreſſed a wiſh that he might be allowed to ſwallow ſomething, I procured ſome calf's foot jelly made lukewarm, of which he ate half a pint without feeling any bad conſequence. The only remarkable circumſtance that attended the firſt time of his ſwallowing any thing, was, that it occaſioned frequent eructations and a great diſcharge of air; but this, according to his own account, produced rather a grateful ſenſation than otherwiſe. Next day he was allowed ſome new milk for breakfaſt, and ſome chicken broth for dinner. The nutritious clyſters were continued, however, till the ſixteenth day, though leſs frequently than before. From that period, for about a fortnight, he lived

wholly on bread, milk, and light broth. He was then allowed chicken, veal, and other meats of eaſy digeſtion. The external wound had been healed for ſome time, and he recovered his ſtrength very gradually. The only inconvenience he ſuffered, was from coſtiveneſs, and a ſenſe of ſoreneſs and ſtricture which extended from the external wound towards the middle of the abdomen. This was particularly felt after a violent expiration, or any ſudden extenſion of body, when, to uſe his own words, 'his ſide was drawn inwards and upwards.' The coſtiveneſs was obviated by mild laxatives and gently ſtimulating clyſters, and went off entirely as the inteſtines recovered their true and natural action. The other complaint, which I apprehend to have originated from an adheſion of the inflamed ſtomach to the peritonæum, ſeemed to go off gradually as he recovered his ſtrength; though it was ſtill felt in a certain degree upon ſtooping, walking quick, or any great exertion of body. When I laſt heard of him, about two months ago, he enjoyed good health.

This

This caſe affords a ſtriking inſtance of the reſources and peculiar powers with which nature has endowed the animal machine for its preſervation, and for remedying any injury it may ſuſtain. The treatment was ſuch as was neceſſarily ſuggeſted by the ſymptoms. The wounded ſtomach was ſo extremely irritable, that even the mildeſt fluids increaſed the violence of its action, and were rejected; for had any ſubſtance, whether of medicine or aliment, been admitted, it would moſt probably have interrupted the union of the divided parts in the firſt inſtance, or afterwards by the action neceſſary for its expulſion through the pylorus.

The liquid contents of the ſtomach had been chiefly diſcharged by the external wound, though part of them muſt no doubt have paſſed into the cavity of the abdomen, and have been afterwards abſorbed; but the wound of the ſtomach collapſing, the barley and indigeſted meat were left, which increaſed the irritation, and occaſioned the uneaſineſs and ſenſe of weight he complained of, and which was in a great

meaſure removed by the vomiting that took place upon his drinking the warm water.

He felt ſome relief after the retention of the firſt clyſter, but at that time his ſtrength was ſo reduced, and the ſymptoms were altogether ſo unfavourable, that neither himſelf, nor thoſe who ſaw him, entertained any hopes of his recovery. It is indeed ſurpriſing what an extreme debility took place immediately after the accident, which could only ariſe from the nervous influence, and general ſympathy with a part ſo eſſential to life.

The accident that happened on the fourth morning, induced me to perſevere in the mode of treatment we had adopted. Indeed, there was great encouragement to continue it, as the broth clyſters were not only retained, but there was a proof of an abſorption having taken place by the ſecretion and evacuation of urine, which then began to be conſiderable. It is a generally received opinion, that clyſters ſeldom paſs beyond the valve of the colon; the contrary has indeed been obſerved in the volvulus or iliac paſſion, but in that caſe the natural action of the inteſtines is inverted,

verted, and a violent degree of antiperiſtaltic motion prevails; in this caſe, however, the broth was thrown up in a very gradual manner, and though, perhaps, it did not paſs the valve of the colon in the firſt inſtance, I am inclined to believe, from the ſudden manner in which the abſorption was afterwards carried on, that a gentle degree of antiperiſtaltic motion took place, whereby it was impelled to the ſmaller inteſtines: this will appear leſs ſurpriſing, when we conſider, that in the natural action the firſt impulſe is communicated by the ſtomach, in diſcharging the digeſted aliment at the pylorus, and continued through the inteſtines in determining the fœculent matter downwards; but here, the natural action was ſuſpended, the ſtomach was at reſt, and there was no foreign matter to be diſcharged.

The advantages to be derived from throwing in a ſupply of fluid, and ſupporting nature in this manner, in particular caſes of obſtructed deglutition, gaſtritis, and other morbid affections of the digeſtive organs, will readily occur to the attentive practitioner.

X. *A Caſe of Suppreſſion of Urine, in which the Puncture of the Bladder in the Regio Pubis was performed with ſucceſs. By Mr.* JAMES LUCAS, *Surgeon of the General Infirmary at Leeds. Communicated by Mr.* JOHN PEARSON, *Surgeon of the Lock Hoſpital. Read December 13th,* 1785.

JUNE the firſt, 1775, a ſtout man of about thirty years of age, was admitted into our Infirmary, with a circumſcribed tumour in the abdomen, reaching as high as the navel; and an inflamed and painful ſwelling in the perinæum, where pus appeared to be already formed. He had no great heat, his pulſe did not exceed ninety ſtrokes in a minute, his tongue was white and foul, he was coſtive, had frequent hiccough, breathed with difficulty, and was often faint; he complained of great pain in the urinary paſſage, and could not make water.

Mr. Walker, the Regimental Surgeon, who had previouſly attended him, informed me that the man, in attempting to leap over two chairs placed with their backs together, had

had fallen acroſs them; by which the perinæum had been much bruiſed: that an hæmorhage from the penis, with great pain, had ſoon ſucceeded; and that the following evening his urine was entirely retained.

Mr. Billam, Senior Surgeon of the Infirmary, being conſulted, we wiſhed to try the warm bath; but that could not be procured, nor could the catheter be introduced; yet, by a ſtrict antiphlogiſtic treatment, the ſymptoms gradually abated, the patient ſoon voided his urine freely, and appeared perfectly well. The pain, however, returned, and the urine, for ſome time paſſed involuntarily, after which it ceaſed to flow.

The abſceſs in perinæo was opened; after which, every method uſually employed in ſuch caſes was had recourſe to; but ſtill the diſeaſe made a rapid progreſs, the ſwelling of the abdomen extending nearly as high as the ſcrobiculus cordis.

The puncture in the regio pubis was now earneſtly recommended, but, for forty-eight hours, was obſtinately oppoſed by the patient.

June

June 3d. Having obtained his conſent, I made a puncture in the bladder, about two inches above the edge of the ſymphyſis pubis, with a trocar of a middle ſize. Three quarts of high coloured urine were evacuated. The canula was ſecured in the wound by a bandage, with ſcapulary ſtraps, and its mouth ſtopped with a cork, that the urine might be drawn off when neceſſary. A piece of ſponge was found uſeful, to abſorb the urine which eſcaped by the ſides of the inſtrument. Although great relief was obtained by the operation, yet the continuance of alarming ſymptoms, for ſome days, rendered a ſtrict attention to the patient's treatment neceſſary.

June 6th. The canula was found out of the wound; and upon failing in my attempts to replace it, I introduced a ſhort female catheter, which I ſecured very carefully; directing, at the ſame time, the patient to lie upon his ſide.

On the fourth day, the patient began to feel ſlight but painful efforts to paſs urine, both by the wound in perinæo, and by the natural paſſage.

June 20th. The wound in perinæo was ſo nearly healed as not to admit the ſmalleſt piece of catgut, yet ſome ſmall drops of urine ſtill eſcaped by that paſſage.

26th. A ſmall bougie was introduced into the urethra, ſo near the bladder, that a flow of urine immediately ſucceeded; but the bougie produced ſuch intolerable and permanent pain, that we depended afterwards on the patient's retaining his urine a longer time in the bladder, and then inviting it to take its uſual courſe, which appears to be a material advantage in puncturing the bladder in the regio pubis.

July 10th. For ſeveral days a ſmall quantity of urine had been evacuated by the natural paſſage, but ſtill more by the almoſt imperceptible orifice in the perinæum.

20th. The whole of the urine finding a paſſage through the uſual canal, the catheter was withdrawn. In a few days, the wounds in the regio pubis and perinæum were healed, and on the 18th of Auguſt, the man was diſcharged cured.

He returned to the hoſpital a year after, with a fiſtula in perinæo, which was in a

a fair

a fair way of being cured, when his ill conduct obliged the truſtees to diſmiſs him.

Both his relapſes were apparently owing to intemperance, and are inſtances how ill thoſe who have been ſubject to diſorders in the urinary paſſages bear any exceſs.

XI. *The*

XI. *The Hiſtory of a Diſeaſe in the Head of the Tibia, with an Account of ſome remarkable Appearances which preſented themſelves on the Diſſection of the Limb. By Mr.* JOHN PEARSON, *Surgeon of the Lock Hoſpital, and of the Public Diſpenſary. Read January* 23, 1786.

JOHN MALLET, a tall thin man, aged ſixty-three years, had for a long time purſued a laborious occupation, and enjoyed a good ſtate of health. In December, 1784, as he was walking, he ſuddenly experienced a ſenſation in his left knee, as if ſomething had broken within it. The pain attending this was ſo acute, that for ſome minutes he was unable to move from the ſpot; but afterwards he walked home, though with great difficulty.

Suppoſing this complaint to be occaſioned by a ſprain in walking, he remained at home for about fourteen days, contenting himſelf with the application of vinegar and other ſimple remedies to his knee; and at the expiration of that time found himſelf

ſo

ſo much relieved, that he attempted to carry a heavy load upon his ſhoulders.

This attempt, however, occaſioned a return of the pain with great violence, and he was obliged to be carried home in a coach. About this time an inconſiderable circumſcribed tumor appeared below and on one ſide of the patella. When this ſwelling was preſſed with the finger, it yielded a little, and there was an evident pulſation within it.

In the month of March, 1785, he was admitted into the Weſtminſter Hoſpital, under the care of Mr. Watſon, who has informed me, that from the firſt time he examined the diſeaſe, he had no doubt of its being an aneuriſm, although ſome of the circumſtances attending it appeared to be uncommon. There was not the leaſt fulneſs, pain, or rigidity, in the ham, and the tumor ſeemed to be ſupplied from ſome branch of the popliteal artery, which had determined him to perform the operation for an aneuriſm, if the patient would have conſented. The poor man was at this period in ſo much torture, that he could not bear to ſtand upright. The veins of the whole

whole limb were much enlarged, and painful; but by the uſe of fomentations, cataplaſms, and purgatives, the pain ſubſided, the veins returned to nearly their uſual ſize, and the man found himſelf ſo much at eaſe, and had ſo well recovered the uſe of his leg, that he walked about the Ward without pain or fatigue. The tumor was now ſo far diminiſhed, that he was diſcharged from the Hoſpital, at his own requeſt; but with an injunction, at the ſame time, to return in caſe he ſhould find himſelf worſe.

Soon after this he applied for relief at the Public Diſpenſary, in the neighbourhood of which he lived, and came under my care July the 13th. At this period, there was a large prominent tumor at the interior part of the patella, which by paſſing under the ligament belonging to that bone, was apparently divided into two ſwellings. The ligament was on the ſtretch, and the apex of the patella ſo much elevated, as to preſs firmly againſt the ſkin. The integuments were not diſcoloured, but the cutaneous veins upon the ſurface of the tumor had again aſſumed a varicous appearance. There

was a ſtrong and regular pulſation evident to the eye, and ſynchronous with that of the radial artery. The pain was unremitting; the whole leg was become œdematous; the foot was cold; his countenance appeared pale and dejected; and his health in general, was much impaired.

The appearance of the limb led me to ſuppoſe with Mr. Watſon, the diſeaſe to be an aneuriſm, the ſeat of which I concluded to be in the anterior tibial artery.

At this period of the caſe, amputation ſeemed to be the only means from which relief could be expected. The age of the patient, and the impaired ſtate of his health, rendered the event of ſuch an operation extremely precarious; but as he and his friends, though apprized of the danger, were anxious for the removal of the limb, I performed the operation on the 25th of July, with the concurrence of Mr. Watſon, who favoured me with his attendance on the occaſion.

The amputation was made above the knee, by the double inciſion. As ſoon as the great veſſels were divided, a conſiderable quantity of blood ſtreamed out from that

that part of the crural artery which was below the inciſion, and the ſac immediately became flaccid.

For ſome days the patient ſeemed to be going on well; and a conſiderable portion of the ſtump was healed by the firſt intention, when a diarrhœa came on with hectic ſymptoms, and he died at the end of five weeks after the operation.

I will now mention the ſtate of the amputated limb; the arteries and veins of which we injected in the uſual way, on a ſuppoſition that the diſeaſe was an aneuriſm.

I began by diſſecting the popliteal artery downwards, and excepting the reticulated appearance of the cutaneous veins, and a very conſiderable enlargement of their diameters, all the blood veſſels ſeemed to be in a natural ſtate. The two principal poſterior diviſions of the artery were not larger than uſual. I then followed the courſe of the anterior tibial artery, by ſawing off a portion of the fibula; but obſerved nothing preternatural. As the ſac before-mentioned was quite turgid, it was opened at its anterior part, and found to contain red in-

jection, coagulated blood, and ſome matter of a very offenſive ſmell. On removing the whole of theſe ſubſtances, I was greatly ſurprized to find, that the ſeat of the diſeaſe was in the bone itſelf. The whole internal ſubſtance of the head of the tibia was deſtroyed, forming an excavation capable of containing more than half a pint of fluid. The whole anterior and poſterior portions of this part of the tibia were compleatly removed; and the fluids had been confined by a ſac reſembling, externally, thickened perioſteum, and lined internally with a ſubſtance, ſimilar to that found in aneuriſmal tumors.

The two lateral portions of the tibia remained, but the external cortical plate of bone was ſo thin as to be tranſparent. Although the caries was ſo extenſive, no matter had been effuſed within the capſular ligament, and the joint was free from diſeaſe; as were likewiſe the patella and the fibula.

When it is conſidered, that the poſterior portion of the tumor preſſed againſt the blood veſſels in the ham, and that there was no bone there nor at the anterior part of the tibia,

tibia, the cauſe of the pulſation mentioned above may be eaſily underſtood.

As the ſac was filled with red injection, there appears to be ſufficient reaſon for preſuming, that one or more arteries opened into it. But it may very properly be aſked, whether the rupture of an artery gave origin to the diſeaſe; or whether the eroſion of blood-veſſels was only a conſequence of an original affection within the bone?

This caſe affords a ſtriking inſtance of the difficulties that ſometimes occur in our attempts to diſcriminate diſeaſes. We have ſeen, that the diagnoſtic ſymptoms of an aneuriſm were preſent, and yet on examination, the diſeaſe proved to be an extenſive caries within the bone.

XII. *A Caſe of Hernia Femoralis, with practical Obſervations. By Mr.* HENRY WATSON, F.R.S. *Senior Surgeon of the Weſtminſter Hoſpital. Read February* 20, 1786.

To be well acquainted with the anatomy of the parts that may, in any diſeaſe, require chirurgical aſſiſtance, muſt always greatly facilitate the treatment of that diſeaſe.

On this account, much pains have been taken to eſtabliſh good ideas of the parts concerned in every ſpecies of hernia or rupture; a diſeaſe but too common in the human body; and too often bringing a patient into the moſt critical ſituation.

Though the anatomy of the parts is now well underſtood, and rules for the general treatment of the diſeaſe have been judiciouſly and pretty fully laid down by our beſt writers on ſurgery; nevertheleſs, in ſome caſes of hernia, wherein an operation may be abſolutely neceſſary, ſuch irregularities and unforeſeen circumſtances occur, that it may

may be impoſſible to ſay beforehand how we ought to proceed. Therefore it is, that this operation can ſcarcely ever be performed twice after exactly the ſame manner.

Much will depend on the judgment, ſagacity, and dexterity of the operator, to relieve the ſtrangulation; to ſet free all impediments; to reduce the inteſtine; ſo that being confined to no rule, the ſurgeon will be left to his own diſcretion, and muſt act as he finds occaſion in every unuſually complicated hernia.

A patient ſeldom ſubmits to the knife willingly; perhaps leſs willingly in the caſe of a rupture, that in a diſeaſe that may put on a much more formidable aſpect.

The delay occaſioned by this reluctance in the patient to ſubmit to the operation, often renders the ſucceſs of it highly precarious: but as we have inſtance upon record of unexpected ſucceſs in very unpromiſing and ſeemingly deſperate caſes, we ſhould from hence learn never to abandon a patient, as we know not what the combined powers of art and nature may accompliſh.

CASE.

MARY COURT, aged forty-nine years, a tall, thin, and healthy woman, the mother of ſeveral children, had been troubled for ſome years with a Femoral Hernia; which, however, occaſioned no particular inconvenience till about the 11th of September, 1784, about four in the afternoon, when ſhe was ſeized with violent ſickneſs; and during her efforts to vomit, ſhe felt the tumor in her groin gradually enlarging to a conſiderable degree. The ſickneſs returned every half hour; and ſhe had no ſtools.

In this ſituation her huſband, who was Dr. Dargent's coachman, having deſired his maſter, the Doctor, to ſee her: he, with his uſual humanity, paid her every neceſſary attention, but to no purpoſe; the vomiting continuing from Saturday to the Wedneſday following; nor, by any means, could a ſtool be procured.

The tumor remained indolent until the Tueſday evening, when it became very painful. This circumſtance obliged her to communicate to the Doctor, what ſhe had hitherto

hitherto kept ſecret, that ſhe had ſuch a ſwelling.

On inſpecting the part, it was evident that medicine could be of little ſervice, without the aſſiſtance of ſurgery. The Doctor therefore ſent to requeſt that I would viſit her.

I found the poor woman continually ſick, throwing up every thing that was given her; together with much bile, and ſome fæces.

The tumor appeared about the ſize of a ſwan's egg, was a little ſpringy; the ſkin not diſcoloured, though much upon the ſtretch; her pulſe low, but regular.

I now informed the patient of the great danger ſhe was expoſed to; and of the impoſſibility of relieving her, except by an operation. She heard this ſentence with great compoſure, and ſoon determined to comply.

She was ſent to the hoſpital about noon on the Wedneſday, where I ſaw her again in about half an hour; and finding her ſtill exceſſively ſick, reſolved to perform the operation immediately. When I had opened

the

the ſac freely, it appeared to contain a conſiderable portion of omentum, ſurrounding about five inches of the ilium. The omentum was thickened and fleſhy, and adhered to the inteſtine ſo much, that I was obliged to diſſect it off very carefully, before I could diſcover the ſtate of the latter.

The inteſtine, which was ſwelled and inflamed, preſented to us a dark coloured oval ſpace, of about an inch in length; and at that part as it ſeemed affected through its whole ſubſtance, there could be no doubt of its ſloughing away.

Having freed every adheſion, and divided Poupart's ligament, I gradually and eaſily returned the inteſtine, in ſuch a manner as to keep the livid part oppoſite the external wound, in order that we might have an eye to its progreſs. The omentum having been previouſly tied, was cut off.

The vomiting ceaſed as ſoon as the operation was finiſhed.

The patient was then put into bed. A clyſter was adminiſtered; and ſhe was allowed to drink freely of white wine whey.

She

She paſſed a good night, but had no ſtool till the next day, when a natural evacuation made her very happy.

On the third or fourth day, when the livid part ſeparated, after the removal of the dreſſings, a large bilious ſtool came through the wound; and fæces continued to paſs that way, till the ninth or tenth day from the operation, when they reſumed their natural courſe.

She was all along confined to a very ſtrict regimen; her diet conſiſting chiefly of ſpoon meats, with milk and water for common drink; and ſhe took an anodyne every night, with half a pint of warm whey.

The wound filled up, and was cicatrized completely by the twenty-ſeventh of October; when ſhe took leave of the Hoſpital, a little enfeebled by long confinement, but otherwiſe in good health.

After ſhe had been at home a few weeks, and had recovered ſtrength, ſhe perceived a pimple on the ſkin of the cicatrix, which broke, and diſcharged a large quantity of clear lymph from a very ſmall opening.

The

The local application of a compreſs well moiſtened with brandy, in a few days put a ſtop to this troubleſome diſcharge, after which ſhe remained free from every inconvenience, grew ſtrong, and enjoyed a perfect ſtate of health.

Practical Observations.

In the preceding caſe the aperture in the inteſtine united with the *peritonæum*, ſo as to leave a free paſſage through the canal; but when from the extent of the mortification, or from any other circumſtance, the hope of ſuch an union is precluded, the uſual practice would be, as we are adviſed, to make an artificial *anus*. But although that expedient may prolong, yet it will certainly take much from the comforts of life. Any other mode, therefore, by which the paſſage through the inteſtine can be preſerved entire, muſt be highly preferable.

With a view to obtain this very deſirable end, I ſhall propoſe a method that is certainly very practicable; and under many circumſtances

circumſtances, apparently, adequate to the intention; as in caſes where the inteſtine has been cut through and through; or where the inteſtine has been divided through its whole circumference, by a lacerated wound; but more particularly in the Hernia with a mortified gut.

Let us ſuppoſe the hernial ſac to have been freely opened, and that we diſcover the inteſtine, in part completely mortified all round. The firſt thing will be, by a double ligature, to tie the meſentery and prevent an hæmorrhage; next to cut away the whole mortified portion of the inteſtine; then, being previouſly provided with a ſtrong cylinder of iſinglaſs *, of a proper length

* We make our cylinder readily enough, by filling a tin tube with iſinglaſs melted in as little water as poſſible, ſo as to make a very firm, ſtrong jelly. The inſide of this tin tube muſt be well oiled before it is filled with the warm jelly, which muſt remain therein till quite cold. It will then eaſily part from the mould, and be fit for immediate uſe.

Iſinglaſs appears to me the beſt adapted ſubſtance for this purpoſe. It is perfectly innocent, eaſily reduced to a jelly of any conſiſtence, and in that ſtate may be moulded into

length and thickneſs, we are to draw the two ends of the divided inteſtine over the cylinder, and bringing them into cloſe contact, with a glover's needle and thread, ſew them together, beginning at any one point, and going round till we have completed the circle. All obſtacles being removed, we are now to return the inteſtine within the abdomen, and the two ends of the thread having been left of a proper length, are to be placed conveniently on the outſide of the wound.

The re-union of the inteſtine, we may preſume, will take place after a few days, when by gently pulling either end of the thread, the whole may be eaſily brought away.

The

into any ſhape or form. It is again eaſily diſſolved by warmth and moiſture, into a ſoft, mucilaginous fluid, and will be a defence to the wounded part. I ſhould prefer a ſolid cylinder to a hollow one, which, though it might eaſily enough be contrived, is not ſo fit for the purpoſe. The inteſtine will want a little ſupport for a time, more than the weak, hollow cylinder can afford; and as to any advantage in letting the fæces ſlip through it, without offending the wound, it can afford none, as its form will be ſo quickly altered by diſſolution.

The external wound will require no more than due attention, with a common treatment.

I have now ventured to recommend to the conſideration of ſurgeons what may appear to be a new mode of practice, or a new operation in ſurgery. I think it ſafe; and am certain it is juſtifiable.

The experiment has been made upon a large dog, who recovering perfectly from the operation, ſeemed not to ſuffer any inconvenience from having had his gut ſhortened four or five inches. Several of the ſtudents were witneſſes both to the operation and cure; during which time the dog was confined wholly to a bread and milk diet, in a moderate quantity, at ſtated intervals: he retained his food well; nor did digeſtion, or abſorption appear to be injuriouſly affected; for on his recovery he betrayed no weakneſs of the animal functions: on the contrary, he appeared ſo briſk and lively, that a ſtranger to the tranſaction could not well ſuppoſe he had ever been the ſubject of ſuch an experiment.

Thus convinced, of the ſafety and great advantage of ſuch an operation, I ſhall never heſitate to put it in practice upon the human body. Should any of my brethren, convinced of its propriety, be induced to adopt it, the reſult of their ſucceſs would be an agreeable communication to me, and an uſeful information to the public,

XIII. *An*

XIII. *A Remarkable Caſe of Abſtinence.* By ROBERT WILLAN, M.D. *Read December* 12, 1786.

A YOUNG man of a ſtudious and melancholic turn of mind, was affected, during the years 1784-5, with ſymptoms of indigeſtion, particularly with ſharp pains in the ſtomach, and a conſtant ſenſation of heat internally.

He thought proper, in the year 1786, to begin a ſevere courſe of abſtinence, hoping, as he informed me, thus to relieve thoſe diſagreeable complaints; but, from other circumſtances, it appears that ſome miſtaken notions in religion principally induced him to form this reſolution.

In conſequence of it he ſuddenly withdrew from buſineſs, and the ſociety of his friends, took lodgings in an obſcure ſtreet, and entered upon his plan; which was, to abſtain from all ſolid food, and only to moiſten his mouth, from time to time, with water ſlightly flavoured with juice of oranges. After three days of abſtinence, the craving, or deſire for food,

which was at firſt very troubleſome, left him entirely: he then purſued his ſtudies and meditations without farther inconvenience. He uſed no manner of exerciſe; and ſlept very little, ſpending moſt of the night in writing. The quantity of water uſed each day was from half a pint to a pint. Two oranges ſerved him for a week: I inquired whether he chewed the pulp; but found that he had only ſqueezed the juice into the water to give it an agreeable flavour.

He made urine in moderate quantity, always clear and without ſediment. He had a natural ſtool on the 2d day of this courſe, and again on the 40th day, but after that no more, though he perſiſted twenty days longer without any variation in his plan. During the laſt ten days of it, his ſtrength failed very rapidly: when he found himſelf unable to riſe from his bed, he began to be ſomewhat alarmed. Hitherto he had flattered himſelf that his ſupport was preternatural; and indulged his imagination with the proſpect of ſome great event, which he expected would follow this extraordinary abſtinence. But his deluſion at length vaniſhed:

vaniſhed: he found himſelf gradually waſting and ſinking to the grave.

His friends, about the ſame time, having diſcovered his retreat, prevailed upon him to admit the viſits of a reſpectable clergyman in the neighbourhood. This gentleman, with great addreſs and judgment, pointed out the fallacy of his viſionary ideas; and finally obtained his aſſent to any plan that might be conducive to his recovery. I was therefore called on to preſcribe the mode of treatment, and accordingly viſited him, on the 61ſt day of his faſt, March 23d, 1786.

He was at that time emaciated to a moſt aſtoniſhing degree, the muſcles of the face being entirely ſhrunk; his cheek-bones and proceſſus zygomatici ſtood prominent and diſtinct, affording a moſt ghaſtly appearance: his abdomen was concave, the umbilicus ſeeming to be retracted, from the collapſed ſtate of the inteſtines; the ſkin and abdominal muſcles were ſhrunk below the brim of the pelvis, and under the ribs, leaving the ſpace vacant betwixt the oſſa ilia, the lower ribs, and ſpine. His limbs

were reduced to the greateſt poſſible degree of tenuity; the oſſa iſchia, the internal trochanters, and all the proceſſes of the bones being eaſily diſtinguiſhable.

His whole appearance ſuggeſted the idea of a ſkeleton, prepared by drying the muſcles upon it, in their natural ſituations.

His eyes were not deficient in luſtre, and his voice remained clear and ſound, notwithſtanding his general weakneſs.

I found him labouring under great imbecility of mind. He had undertaken, during this retirement, to copy the bible in ſhort-hand; and this work he had executed very neatly as far as the 2d book of Kings, with ſhort arguments prefixed to each chapter. He ſhewed me ſeveral improvements he had made in that kind of writing, particularly in the abbreviations. He had alſo with great diligence put together parallel paſſages, and traced particular ſubjects through the whole ſcriptures, noting their application in different inſtances, and adding obſervations of his own. The clergyman, who examined this performance, told me he had proceeded regularly at firſt, with

with ſome ingenuity and judgment; but that afterwards he became obſcure, and ſeemed to be loſt in endleſs confuſion.

March 23d. He was directed to drink a pint of barley water and two cups of panada, which agreed very well with his ſtomach. He had a little feveriſh heat in the firſt part of the night, but ſlept better than uſual.

March 24th. He had this day ſome mutton tea, the taſte of which was moſt delicious to him, and particularly provoked his appetite. His pulſe was 72, ſmall and temperate.

On the 25th, He took a pint of milk for breakfaſt; a pint of mutton-broth boiled with barley, for dinner; and as much rice-milk for ſupper, at his own requeſt. He had conſiderable cravings for food all that day, and would have taken much more than his allowance.

26th. In the morning he drank tea, and ate a great quantity of bread and butter, which he got off from the table in the nurſe's abſence. Some time after he became ſick, and vomited once or twice without

much ſtraining. About noon he had a figured natural ſtool, and preſently after two or three looſe motions. His urine was of a natural colour, with a light enæorema in the middle. His ſkin always remained dry.

I ſaw him in the evening, apparently much better: his pulſe was at 90, and firmer. He was ſitting up in an eaſy chair, as he found himſelf ſomewhat ſtronger. He ſpoke now of his complaints like an hypochondriac; thought his eyes and tongue were diminiſhed and waſted away. He ſaid, the ſenſation of heat in the ſtomach had never left him, notwithſtanding his ſpare diet. He talked however ſenſibly enough, and indeed with ſome acuteneſs on general ſubjects; but was ſoon fatigued by converſation.

27th. He took a little light bread pudding at dinner, and had two eggs for ſupper; with the taſte of theſe he was particularly pleaſed. Every thing agreed well with him; he reſted well, was more cheerful, and often expreſſed to me the ſatisfaction he felt in being freed from his ſtrange deluſion.

On

On the 28th, He ſeemed recovering apace; his cheeks were more full; his limbs had ſo far regained their ſtrength, that he could eaſily walk acroſs the room. He did not ſleep much in the foregoing night, nor had had a ſtool during the day. He ſaid the pain of his ſtomach had left him, which circumſtance contributed much to enliven his ſpirits.

On the 29th, I found the ſcene entirely changed: he began to loſe his recollection in the preceding evening; and before midnight became quite frantic, and unmanageable. His pulſe was encreaſed in frequency, with conſiderable heat on the ſkin, and tremors. He continued raving and talking very incoherently, as he had done during the night. A ſtrong purgative draught, and two clyſters adminiſtered in the courſe of the day, produced but little evacuation.

He remained nearly in the ſame ſtate of mind as above-mentioned, ſcarce ever ſleeping, and taking very little nouriſhment, till the 2d of April, when a conſiderable quantity of looſe feculent matter was brought away by a clyſter. Soon after he

became ſullen, and took no notice of what paſſed about him.

He was removed at this time into the country, ſo that I did not viſit him again till the 6th of April.

He appeared then emaciated to a greater degree, if poſſible, than when I at firſt ſaw him. His pulſe was ſmall and feeble, beating 120 ſtrokes in a minute.

April 7 and 8, He took whatever nouriſhment was offered to him; knew thoſe around him, and ſpoke ſenſibly, but faintly.

On the 9th, In the morning, he died, quite exhauſted.

The duration of this young gentleman's faſt is, I believe, longer than any recorded in the annals of Phyſic. He could ſcarcely have been ſupported through it, except from an enthuſiaſtic turn of mind, nearly bordering on inſanity; the effect of which, in fortifying the body againſt cold and hunger, is well known to Phyſicians.

In the Memoires de l'Academie des Sciences, 1769, we have the caſe of a madman recorded, who lived 47 days without taking any thing but a pint and a half of water

water per day. He ſtood conſtantly in the ſame poſition for 38 days of that time; but during the remaining eight, he was obliged to lie down through weakneſs; and then took nothing, refuſing even water.

When he firſt began to eat again, he recovered his reaſon for a time, but ſoon relapſed.

In the Edinburgh Medical Eſſays, vol. vi. a caſe is related of a young girl, who faſted, at one time, 34 days, at another time, 54 days, from a ſpaſm, or ſome obſtruction of the œſophagus.

M. Pouteau, in his *Œuvres Poſthumes*, mentions a young lady, thirteen years old, who, being unable to keep ſolid aliment on her ſtomach, ſubſiſted eighteen months on ſyrup of capillaire mixed with water, and in that time grew two inches and a half.

Several other remarkable inſtances of abſtinence may be found in different works, particularly in Stalpart Vander Wiel's *Obſerv. Rar.* *; in the Philoſophical Tranſactions †, and in the Memoirs of the Literary and Philoſophical Society of Mancheſter ‡: but few concluſions of importance,

* Cent. poſt. pars pr. Obſ. xv.

† Vol. lxvii. ‡ Vol. ii. p. 467.

portance, with regard to medical practice, can be deduced from ſuch extraordinary caſes. It is not, however, amiſs to have aſcertained for what length of time the human conſtitution is able to ſupport itſelf under abſtinence.

M. Pouteau, in the work juſt now mentioned, has made one obſervation on this ſubject which deſerves attention. He thinks the virus of cancer may be eradicated by a water-diet, and propoſes a plan for that purpoſe, in which the patient muſt perſiſt for two months. He aſſures us, that health and ſtrength are afterwards recoverable by a proper regimen. In one perſon a complete cure was made by this plan. In others who could not be prevailed upon to follow it more than one month, he ſays, the diſeaſe appeared to be very much mitigated.

XIV. *Caſe*

XIV. *Caſe of a Dropſy of the Ovarium; with Remarks on the Paracenteſis of the Abdomen. By Mr.* EDWARD FORD, *Surgeon of the Weſtminſter General Diſpenſary. Read July* 24, 1787.

March 31ſt. 1778, I was deſired by Dr. Bagge, at that time phyſician to the Weſtminſter General Diſpenſary, to perform the operation of the paracenteſis upon Ann Maſon, of Clarges-ſtreet, May-fair. On enquiry, I found that ſhe had been delivered of a living child a month before. She was twenty-eight years of age, a temperate woman, had always enjoyed a good ſtate of health till lately, and had been married about twelve months. During the courſe of her pregnancy, ſhe had been ſenſible of an increaſe of bulk, far greater than could be accounted for from uterine geſtation. Her delivery had produced little change in her ſize, and ſhe was, at this time of an enormous magnitude. With regard to the cauſe of her complaint, no very ſatisfactory information

information could be obtained. It was ſuppoſed by herſelf and friends to originate from a fall which ſhe had received. The accident however was ſlight, nor would it be worth mentioning here, did not repeated experience ſhew, that very trivial injuries to many parts of the human frame, occaſion dreadful calamities, where there is a diſpoſition to ſcrophula. Her general ſtate of health did not ſeem to have ſuffered from her diſeaſe; her complexion was florid and healthy; ſhe was quite recovered from the effects of parturition; but the difficulty of breathing was ſo exceſſive, as to make her very deſirous of that temporary relief, which the operation of tapping affords.

This operation was performed, for the firſt time, on the 31ſt of March, 1778, and 96 pints of water (wine meaſure) were taken from her at this time. She experienced great benefit from the evacuation, and ſoon recovered her ſtrength. But in October following ſhe was again ſenſible of diſtention in the abdomen, which reduced her to the neceſſity of ſubmitting on the 8th of December to another operation.

To avoid unneceſſary repetitions, I have ſubjoined a table which will, at one view, ſhow how often ſhe was tapped, and the quantity of water diſcharged at each time. The fluid was always meaſured with great accuracy, and generally in the preſence of the phyſicians of the Diſpenſary who attended her. Other gentlemen of the faculty occaſionally viſited her; among theſe was the late Dr. William Hunter, who was particularly attentive to the ſingular circumſtance of ſo quick an accumulation of fluid, as the following table exhibits.

TABLE.

			Pints.	Pints.
1778	March	31	95	
	Dec.	8	66	161
1779	April	24	64	
	Auguſt	20	76	
	Dec.	9	64	204
1780	January	26	68	
	March	24	84	
	May	18	76	
	July	9	82	
	Auguſt	29	81	
	October	15	79	
	Nov.	26	82	552

1781 Jan.

			Pints.	Pints.
1781	January	4	87	
	Feb.	10	71	
	March	14	58	
	April	17	70	
	May	17	76	
	June	14	78	
	July	11	66	
	Auguſt	8	64	
	Sept.	1	62	
	——	22	64	
	Oct.	17	70	
	Nov.	11	76	
	Dec.	7	60	
	——	26	62 ——	964
1782	January	16	66	
	Feb.	7	64	
	——	28	63	
	March	20	63	
	April	7	63	
	——	25	64	
	May	15	63	
	June	4	58	
	——	26	62 ——	566
1782	July	14	62	
	Auguſt	1	66	
	——	19	60½	
	Sept.	9	61	
	——	27	51	
	Oct.	6	39 ——	339½
			Total	2786½ Pints.

From

From this account it appears, that ſhe was tapped forty-one times; that at theſe repeated operations ſhe loſt 2786 pints of water; that in the year 1780 ſhe was tapped ſeven times; that in the year 1781 the accumulation of water was ſo quick that ſhe was tapped fourteen times, and 964 pints were diſcharged in the courſe of that year, which upon an average, will make a ſecretion daily of more than two pints, ſix ounces; that for the firſt ſix months of the year 1782, ſhe was tapped nine times, and 566 pints of water were diſcharged, which, on an average, will be rather more than three pints accumulated daily; and that in the laſt three months of her life, ſhe was tapped ſix times, and 339 pints diſcharged, which will make upwards of three pints and three ounces ſecreted daily.

There are upon record many inſtances of this operation being more frequently repeated than in the preſent caſe; of larger quantities of fluid diſcharged, and of life being prolonged with comfort even to longevity; but I believe there is no caſe which exceeds the preſent for a quick accumulation of fluid.

It was this circumſtance that led me to conſider, whether it was not poſſible, by meaſuring the quantity of fluids which ſhe took, and the quantity of urine made in the interval of an operation, to aſcertain whether a very conſiderable inhalation had not taken place on the ſurface of the body. In order to proceed with accuracy, it was neceſſary to intereſt the unfortunate object of this paper in the trial, and ſhe, who was ready to ſuppoſe, that an exact attention to the ingeſta and egeſta would be conducive to recovery, faithfully obeyed the directions given her.

The experiment was begun on Auguſt 1ſt, 1782, on which day ſhe had been tapped, and was continued to the 19th of the ſame month, when the operation was again repeated. It was conducted under the inſpection of Dr. Simmons, who then preſcribed for her.

The quantity of fluids ſhe drank was preciſely meaſured, it conſiſted chiefly of tea, and half a pint of porter each day. The ſolids ſhe eat were uſually weighed, and the urine was alſo meaſured with great exactneſs.

TABLE.

TABLE.

Quantity of Fluids taken.		*Quantity of Urine discharged*		
Auguſt 1	28 ounces.	Auguſt 1		14 ounces.
2	44	2		12
3	28	3		8
4	26	4 to 7		48
5	30	to 9		36
6	28	to 13		56
7	28	16		36
8	32	17		16
9	32	18		16
10	32			242
Baum tea for 3 days	48			
11	32			
12	32			
13	32			
Baum tea	24			
14	32			
Baum tea	24			
15	40			
16	40			
17	40			
18	40			
	692			

In this account I have not mentioned the ſolid aliment ſhe took, as it was not conſiderable in quantity; but if it may be ſuppoſed to have furniſhed any part

of the fluid ſecreted into the diſeaſed ovary, on the other hand I would ſtate, that ſhe had during this period profuſe ſweats, and copious looſe evacuations by ſtool. It appears, that during eighteen days ſhe drank 692 ounces, or 43 pints of fluid; and that ſhe diſcharged by urine, and by paracenteſis, 1298 ounces, or 81 pints, which leaves a balance of 606 ounces, or 37 pints. The reſult of this is, I think, deciſive, and proves, unqueſtionably, that the body muſt have inhaled in that time a conſiderable quantity of fluid, which contributed to the accumulation of water in the ovarium.

During the courſe of the diſeaſe, no circumſtance occurred materially differing from the uſual progreſs of dropſies of the ovarium. From time to time it was neceſſary to vary the place of puncture, as large indurated ſubſtances were plainly perceived to exiſt in different parts of the cavity.

Uſe had not reconciled her to the operation, or abated its terrors; hence ſhe frequently deferred it, till the diſtention of the cyſt ſeemed to produce inflammation on its internal ſurface; and in conſequence a fever

fever enſued. She recovered ſlowly after the operation, and her intervals of health became every time ſhorter.

She died on the 16th of October, 1782, ſoon after her laſt tapping; and although a few days only had elapſed ſince the operation, the collection of water was found to be conſiderable when the body was opened.

The diſeaſe proved to be a dropſy of the right ovarium; the cyſt was very large, extending upwards to the epigaſtric region, and adhering univerſally to the parietes of the abdomen. To the internal ſurface, which was covered with an exudation of matter, were attached ſeveral large ſubſtances of the ſize of an oſtrich's egg, others not exceeding the bigneſs of a walnut; ſome reſembling hydatids; and others of a firmer conſiſtence, that ſeemed to have had a tendency to ſuppurate.

The uterus and left ovary were perfectly ſound. The other contents of the abdomen, as well as the thoracic viſcera, though compreſſed and thrown out of their natural ſituation, had not ſuffered any morbid alteration.

It will not, I hope, be thought extraneous to the ſubject of this paper, to add a few remarks on the paracenteſis of the abdomen, founded on my own experience.

This operation, though generally performed with great benefit to the patient, is by no means to be conſidered as free from danger: for excluſively of the debilitated ſtate of health under which dropſical patients uſually labour, and which expoſes them to a certain degree of danger, there are hazards attendant upon the operation. In a dropſy of the ovarium (and this ſpecies of dropſy is more frequent in women than aſcites) it may happen, that from the thickneſs of the cyſt, or the intervention of ſome of thoſe large ſubſtances which are found on its internal ſurface, or from the water being contained in different ſacs, the benefit derived from tapping may be very partial. It is alſo to be remarked, that after this operation, a fever ſometimes comes on of a very fatal tendency: and the appearances, upon diſſection, have been found ſimilar to thoſe of the puerperal fever.

The fluid contained in this ſpecies of dropſy, is ſometimes ſo thick and glutinous, that it cannot paſs through a ſmall trocar;

in

in theſe caſes, therefore, a large trocar ſhould always be uſed.

Chirurgical writers, juſtly apprehenſive for the ſafety of the patient, have accurately pointed out the part moſt convenient for the puncture. Their rules cannot however be attended to in the encyſted dropſy; the cyſt is of ſuch various thickneſs, that whoever ſhould in theſe caſes invariably make his wound three inches obliquely below the navel, would ſometimes fail of relieving his patient: wherever the fluctuation is moſt evident, the puncture muſt occaſionally be made; and on the contrary, it ſhould be very cautiouſly attempted on any part where the fluctuation is indiſtinct, from the thickneſs of the cyſt and integuments.

With the moſt laudable views for the preſervation of life, attempts have at different times been made for a radical cure of this complaint; large openings have been made in the cyſt, and expectations have been formed that a more permanent relief would have been obtained than a mere ſuſpenſion of the diſeaſe: theſe attempts have in ſome inſtances proved fatal; in others, a

fiſtulous ſore has remained, and the patient has ſeemed to gain an advantage more ſatisfactory than a mere puncture could have afforded.

To the reaſons alledged by the late Dr. William Hunter * againſt this operation, and which ſeem to be founded on that great anatomiſt's frequent obſervation of the internal ſurface of the cyſt, and on the difficulty of aſcertaining where the cyſt adheres to the peritonæum, let me add an account of a caſe which I lately attended with Mr. Simmons of Rathbone Place.

A woman in Tottenham-court-road, who had been tapped ſeveral times for a dropſy, which proved to be that of the ovary, after every operation, recovered with difficulty. In the part where the puncture was made a ſlight inflammation always came on, attended with fever; and a circumſcribed hardneſs remained, ſo that ſhe could not be tapped again near the ſame place.

I thought it probable, that upon diſſection of the body it would appear, that the cyſt had formed adheſions where the punctures had been made, and that conſequently an inciſion might have been made without riſk of a wound penetrating into the cavity

* Med. Obſ. and Inq. Vol. II. page 41.

cavity of the abdomen; but diſſection proved that this idea was not well founded. She died after the ſixth tapping; and though the cyſt had ſlight adherence in ſome places, it had no attachment to the peritonæum, at the part where the paracenteſis had been made.

Amongſt the dangers that attend this operation, I think it right to mention one, which, though known to practitioners, is not much noticed by writers—this is an hæmorrhage enſuing from a wound of the epigaſtric artery, or ſome of its branches. This accident has happened to me; and to my knowledge has occurred to other ſurgeons. It is a circumſtance very diſtreſſing; the vis vitæ in dropſical patients being ſeldom ſo ſtrong as to enable them to ſuſtain with ſafety a profuſe hæmorrhage; and the difficulty of reſtraining it being conſiderable. I once ſucceeded in a caſe where the effuſion was very large, by holding the integuments and muſcles between my fingers and thumb, and cauſing them to be ſo held for ſix hours, till the bleeding was ſtopped.

In the uſual place of tapping, no care of the ſurgeon can inſure him abſolutely from

this accident, though it muſt be confeſſed, that it occurs ſo rarely, that it need only be mentioned as a poſſible occurrence *.

In tapping for the hydrops ovarii, it is not uncommon to find the water run bloody when the cyſt is nearly exhauſted: this circumſtance, which at firſt view appears alarming, may not be dangerous; it ſeems to be occaſioned by the friction of the end of

* When this paper was read to the Society, Mr. Pearſon, Surgeon of the Lock Hoſpital, recollected an inſtance of a ſimilar accident; of which he has ſince favoured them with the following account.—" A man who had " long been afflicted with aſcites, was adviſed by his " phyſician to undergo the operation of the paracenteſis. " The operation was performed by a ſurgeon, whoſe abi- " lities and experience had rendered him eminent; and " about three gallons of water nearly tranſparent were " evacuated. Immediately on withdrawing the canula, " blood of a florid colour iſſued in a full ſtream from the " orifice, and was caught in a baſon, to the quantity of " about two pounds. The hæmorrhage abated ſponta- " neouſly; a little lint and ſticking plaſter were applied " to the wound made by the trocar; the belly was rolled " as uſual, and the patient went to bed. The man died " in about twelve hours after the operation. When the " body was opened, a large quantity of coagulated blood " was found in the cavity of the abdomen; and on ex- " amining the ſtate of the epigaſtric artery, I found that " it had been punctured, but not divided, by the point of " the trocar."

of the canula with thoſe diſeaſed maſſes which are generally found on the internal ſurface of the cyſt.

Another accident which may enſue from the Paracenteſis, is a wound of the ſpleen; to an inſtance of which I was once a witneſs. The patient died, and upon opening his body there was ſeen a large effuſion of blood into the cavity of the abdomen, from a wound of the ſpleen, evidently made by the triangular point of the trocar. The ſpleen, in this ſubject, was uncommonly large, weighing upwards of four pounds.

XV. *Obſerva-*

XV. *Obſervations on the Effects of Camphor, applied externally, in ſome Caſes of Retention of Urine. By Mr.* JOHN LATHAM, F.R.S. *Surgeon at Dartford. Communicated by* Dr. GRAY. *Read Sept.* 4, 1787.

SOME years ago I was ſent for to viſit a gentleman, who was already attended by the late Dr. Green, Phyſician at Greenwich. The patient was upwards of 70 years of age, thin, and of a delicate conſtitution, but tolerably healthy; he had been temperate in his diet, and uſed moderate daily exerciſe, chiefly on horſeback. On the 10th of November (four days before I was called to him) he had been caught in the rain while on horſeback; and the following day had found ſome uneaſineſs in making water, but which was not much greater than he had before frequently experienced, as he had not for ſome years been able to retain his urine, for any conſiderable length of time, without inconvenience.

On the 14th, a total Retention of Urine took place, attended with violent and painful

ful efforts to void it, with a quick pulſe, and ſome degree of thirſt. It was thought proper to bleed him; after which, his bowels were emptied with Ol. Ricini, and he was put into a Semicupium. Theſe means not producing the deſired effect, the catheter was introduced, by which a large quantity of urine was drawn off.

He afterwards took manna, with oil of almonds, every four hours.

On the 15th, the catheter was again introduced; which operation was repeated, every day, once or twice, until the 27th. He was then ordered to take the bark; and a cloth dipped in cold water was applied to the pubis. No relief was by theſe means obtained; on the contrary, the irritation to make water became more violent; and when the catheter was introduced, not more than half the uſual quantity of urine was evacuated: the pulſe alſo was much quicker, and there was every other ſign of increaſed inflammation, ſo that it was not without the greateſt difficulty that I now could introduce the catheter. It was deemed neceſſary, therefore, to reſume the firſt plan

of

of treatment, viz. bleeding; evacuating the contents of the bowels with Oleum Ricini, &c.

After the ſecond bleeding, he was brought nearly to the ſtate he was in before he took the bark.

Dr. Green then preſcribed muſk, in large doſes, having, as he ſaid, found it ſucceed in ſimilar caſes, when other remedies had failed: but it had no effect whatever on our patient.

At one of our meetings, I mentioned to the Doctor, that I had ſomewhere read an account of the good effect of camphor, in Stranguries, when applied externally. I had, beſides, obſerved in a patient labouring under nephritic complaints, that a ſtrong Camphor Liniment, rubbed on his thighs, though for another purpoſe, had produced a more copious flow of urine than uſual; and I recollected the circumſtance of camphor being generally employed in practice to counteract the irritation of Cantharides on the urinary organs. I thought, from theſe conſiderations, that it might poſſibly be of ſome uſe in this caſe,

As

As Dr. Green had no objection to a trial of this remedy, a liniment was prepared of Oil of Almonds, with as much camphor as could be diſſolved in it.

We ordered the liniment to be rubbed every four hours on the inſide of the thighs, from the groin to the knees, and likewiſe about the region of the Pubis. On the ſecond application of it, the patient voided about half an ounce of Urine, and continued to void it, in larger quantities, from time to time, till the 22d.

The uſe of the catheter (which had been introduced no leſs than 67 times) was now no longer neceſſary; and by proper remedies, and a reſtorative diet, the patient recovered his uſual ſtrength; nor had he any return of this complaint afterwards.

MARY CROSS, of the pariſh of Sutton, a poor woman, of a delicate conſtitution, was ſeized with a Retention of Urine, in conſequence of expoſure to cold. When firſt called to her, I took away ſome blood, ordered a purgative medicine to be given, and

and cold water to be applied to the region of the pubis.

No relief being obtained by theſe means, I drew off, by the catheter, a large quantity of water, and then preſcribed a clyſter, containing ſixty drops of Tinct. Thebaica, and half a drachm of camphor, which procured eaſe and reſt, but had no farther effect on her complaint. I therefore made uſe of the camphorated liniment, as in the former caſe; and in a ſhort time the patient voided ſome urine: after which, I had only occaſion to make uſe of the catheter twice, her health being ſoon re-eſtabliſhed.

About a year after, ſhe had a return of the ſame complaint, when bleeding and laxatives were again employed without effect.

The camphorated liniment, which I now entirely relied upon, ſucceeded as well as before: and ſhe has remained in good health for the laſt four or five years.

Retention of Urine is not unfrequent after difficult labours, and in ſuch caſes the uſe of a catheter, with an antiphlogiſtic regimen, generally affords relief. In two inſtances,

ſtances, however, of this ſort, where the Retention continued longer than uſual, I have made uſe of camphor externally, with the deſired ſucceſs.

XVI. *Caſe*

XVI. *Caſe of an Injury of the internal Table of the Scull, ſucceſsfully treated. By Mr.* CHARLES BRANDON TRYE, *Surgeon of the Glouceſter Infirmary. Communicated by Mr.* HENRY WATSON, F.R.S. *Read September* 18, 1787.

JOHN BRACEY, aged twenty-five years, on the fifth of July, 1786, received a blow from a ſkittle bowl on the moſt anterior part of the right ſide of the head, in conſequence of which he fell to the ground, and was for ſome ſeconds deprived of his ſenſes. He was extremely giddy after the accident, and a violent head-ach came on, which continued without being relieved either by bleeding or purging (both of which remedies were had recourſe to) till the ninth day, when he was ſent to the Glouceſter Infirmary.

His head was ſhaved, but there was no wound, nor any appearance of contuſion on the ſcalp. There ſeemed, however, to be a little fulneſs and puffineſs of the integuments

iments lying over part of the ſuperior and anterior edge of the right temporal muſcle; and a ſlight degree of ſoreneſs was perceived by the patient, when that part was preſſed upon. His pulſe was natural, he was not ſick, and he had no ſymptoms of preſſure on the brain, if we except the head-ach and giddineſs, which had never left him ſince the accident.

I made an inciſion in that part where the puffineſs was obſervable. The pericranium was found adhering firmly to the bone, and upon laying bare the latter, I could diſcover in it no appearance of fracture or fiſſure, nor any alteration from its natural ſtate.

He received no benefit from this operation, nor from any other means that were employed for his relief, but remained in violent and conſtant pain during the ſpace of five weeks.

By this time the integuments of the cranium were become uniformly thickened to a conſiderable extent; that is to ſay, over the whole right bregma, over part of the os frontis, and even to the maſtoid proceſs of the temporal bone. There was no

particular elevation of the integuments, but the ſcalp pitted a little under ſtrong preſſure, and there was a ſlight ſenſation of ſoreneſs, when it was touched.

Although the ſtate of the ſcalp did not indicate either a fractured bone or a deep ſeated ſuppuration, and though the condition of it was different from what I had ever ſeen, in conſequence of violence done to the head, yet I judged it neceſſary to attempt ſome deciſive meaſure for the relief of the patient, who was nearly worn out with irritation, pain, and want of reſt.

He was become extremely emaciated, and his appetite had for ſome time almoſt totally left him.

From having frequently obſerved, that the thickening which takes place in conſequence of chronic inflammation in membranous, tendinous, and ligamentous parts, is attended with conſtant and ſevere pain, I was induced to think, that in the preſent caſe, the diſeaſed ſtate of the ſcalp and pericranium, independently of any miſchief within the ſcull, was ſufficient to account for the patient's ſufferings.

From

From theſe conſiderations I was induced, the twenty-ſecond of July, to lay bare a conſiderable portion of the os bregmatis, and a part of the os frontis. The pericranium was at leaſt half an inch in thickneſs, and aſſumed the ſame kind of appearance which a diſeaſed and thickened perioſteum on the tibia commonly puts on.

It adhered every where to the cranium, though not in the manner in which it adheres in a natural ſtate. Poſſibly my idea may be comprehended, when I ſay, that it was ſticking to the bone by coheſion, and not by being attached by blood veſſels. The bone was ſcabrous, and did not bleed at all on the ſeparating of the pericranium.

The temporal muſcle was changed in its appearance, and its ſubſtance was in part ſimilar to that of the diſeaſed pericranium, being become, as it were, a pale, leathery maſs, without the appearance of a fibrous texture.

It ſhould have been recorded above, that the patient for ſome time ſince the accident, had experienced a good deal of uneaſineſs and

difficulty in depreſſing his lower jaw, and opening his mouth.

I cut away a large part of the diſeaſed muſcle, and diſſected off a good deal of the thickened pericranium from the ſcalp, which I preſerved, and again laid down upon the bone.

He was a good deal relieved by this operation; and as there were no deciſive ſymptoms of preſſure on, or other miſchief in, the encephalon, I proceeded no farther at this time. Eight days afterwards, the pain having returned, and the pericranium being very much thickened towards the occiput, I laid the bone bare poſteriorly, ſtill farther, and diſſected away the diſeaſed pericranium from the ſcalp, as I had done before. His pain was again relieved. I ſcraped the bone, as indeed I had done in the laſt operation, and it was in the ſame condition in which it appeared to be on the former examination. No blood either time followed the rugine.

It was evident that the external table was dead to a conſiderable extent, and therefore that a large exfoliation of it muſt take place, if the man ſhould live a ſufficient time.

time. To forward that exfoliation, I made ſeveral perforations in the cranium with the terebra of the trephine. I repeated this proceſs from time to time, during the ſpace of fifteen or ſixteen days; in which time ſome granulations had ſprouted thro' ſome of the perforations, and likewiſe thro' one part of the coronal ſuture, which ſuture I had expoſed on the right ſide of the head.

One and twenty days after the laſt time of ſcalping, (more than nine weeks from the time of the accident) as his unfavourable ſymptoms ſtill remained, though in a leſs degree, and as no exfoliation had taken place, I determined to apply the trephine, and remove, at leaſt, ſome portion of the external table.

I uſed a large crown, and after ſawing a little while, florid blood came through the wound in the bone *per ſaltum*. Being perſuaded it muſt iſſue from an artery, either of the dura mater or the brain, I deſiſted from ſawing, and by introducing a probe, was convinced that the internal

table was wanting in the ſpot which I examined.

The next day I replaced the trephine, and took away the circular piece which had been nearly ſeparated by yeſterday's ſawing. To it adhered a conſiderable piece of the internal table.

I likewiſe eaſily removed with a forceps, all that portion of external table which lay between the poſterior edge of the perforation, and the coronal future, thereby denuding as much of the encephalon as could be covered by two fingers.

Fig. I. * of the drawing which accompanies this paper, was made after placing the pieces of bone, removed as above mentioned, upon another cranium; by which method, a clear idea is communicated of the ſtate and ſituation of the portions of bone under conſideration.

A. is the circular piece included in the ſaw; to the underſide of this adhered the portion of internal table ſhewn in Fig. II. and adhering to the ſame, came away likewiſe the

* See Plate III.

the piece B. The letters cccc. refer to that portion of the os bregmatis, which was removed by the forceps, after trepanning. The greater part of it had no internal table; but the encephalon itſelf was denuded, as I have before mentioned.

In the part more diſtant from the perforation, the internal table remained, or at leaſt there was ſome bony covering to the brain.

The expoſed ſurface had a healthy aſpect, was covered with minute granulations, and the brain pulſated freely and regularly; but whether the granulations aroſe from the dura or pia mater, or whether both meninges had been deſtroyed at this part, and they were ſprouting from the brain itſelf, was not clearly to be decided. It is moſt probable, however, that they aroſe from the dura mater; as they did not at any ſubſequent time ſhoot up in that looſe, ſpongy ſtate, in which fungus uſually riſes, when the bone and dura mater have been opened, and the pia mater or brain expoſed.

The wound was dreſſed with an anodyne cerate; and to avoid preſſure, I uſed an elaſtic yarn night-cap, inſtead of a bandage.

Fig. II. ſhews the internal ſurface of the piece which came away with the trephine. The light part is the piece of internal table adhering to the external table; the latter is repreſented in ſhadow.

From this time the patient felt no more of the pain in his head, which he had hitherto complained of. His appetite was reſtored, and he recovered his fleſh, and the healthineſs of his countenance.

In the month of January, 1787, his cure was perfectly completed. In the intermediate time nothing occurred worth mentioning, excepting what follows.

'Till the latter end of October matters went on very well. Small portions of the external table of the os frontis, near the coronal ſuture, and of the remaining part of the os bregmatis, near the ſeat of the trephine, were thrown off at different times. The thickening of the ſcalp and pericranium was every day ſubſiding. Cicatrization was going forwards on the edges of the ulcer, and oſſification had made a conſiderable progreſs in the granulations of the expoſed encephalon.

But

But at the laſt mentioned period of time, he was ſeized with a rigor; became ſick and giddy, and complained of a ſevere pain in his head, though of a different kind from that which he had experienced before the ſcalping and trepanning. His aſſuring me of his perceiving this difference, a good deal leſſened my apprehenſions concerning the event of the preſent attack. As he had a troubleſome cough, I bled him firſt in the temporal artery, which yielded but little blood, and then in the jugular vein of the affected ſide. I ventured afterwards to order him a vomit, which greatly relieved him. I allowed him wine, and a generous diet, and appeaſed his cough with anodynes.

By theſe means he was again recovered. Two or three times afterwards he was troubled with head-ach and giddineſs, but found a certain relief in being bled in the jugular vein; and that, though the quantity of blood taken away, was very ſmall.

The cicatrization of the ſore was not accompliſhed without great trouble and difficulty. Stimulants agreed much better with

it

it than emollient or the common epulotic dreſſings.

The oſſification was completed at the time at which he is ſaid to have been cured.

About a month before he was diſcharged, the lymphatic glands on the back part of the head and neck became ſwollen, but ſubſided as the ſore healed.

Remarks.

It ſeems evident to me, that at the time the blow was received there was a fracture, without depreſſion of the internal table, (notwithſtanding the part fractured was at ſome diſtance from the ſeat of the blow) or which is in effect the ſame thing, that the life of the portion of internal table ſhewn in Fig. II. was then deſtroyed.

It has been very ingeniouſly obſerved, that the abſorbents will remove very little of dead bone; but that of living ſolid parts, whether bony or otherwiſe, abſorption, whenever excited, will freely go on. Now the internal ſurface of the piece of inter-

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nal table was perfectly ſmooth, retained the impreſſions made by the veſſels of the dura mater, and had a natural appearance, excepting its colour, which was a dead white. It is alſo probable, that the life of the external table, to ſome depth, was likewiſe deſtroyed by the blow, or at leaſt that it did ſo much injury to the part, that in conſequence thereof it became dead, and remained as an immoveable cruſt over the before mentioned dead portion of the internal table; effectually and entirely reſiſting every effort of nature for the removal of the latter: for the dead portion of internal table could not be abſorbed, but acted as a ſtimulus to the abſorbents of the circumjacent living parts, which were readily and extenſively removed. But it could not be thrown off, becauſe the external table remained firm and unſeparated, and the integuments had not undergone the neceſſary change.—Knowing theſe things, we are at no loſs to account for the pain and irritation under which the patient laboured, and for the chronic inflammation and thickening of the pericranium.

The

The good fortune of the ſurgeon is likewiſe ſtriking; the crown of the trephine was applied upon the very ſpot, under which lay the dead piece of the internal table.

Another circumſtance worthy of obſervation, is, the readineſs with which ſo large a quantity of bone was abſorbed, without the formation of matter. I mean here, the removal of the circumjacent portions of the internal table.

Laſtly, the exertions of nature for the preſervation of the patient, can never be ſufficiently admired. Had an extenſive ſuppuration taken place, in deſpite of every care, it is probable the man would have periſhed.

In order to give an exit to the dead internal table, nature had certainly ſet on foot a proceſs for the caſting off of the whole external table of the right bregma. That this was her intention, ſeems evident from the ſhooting up of granulations in the coronal ſuture. Had I laid bare the lambdoidal and ſagittal ſutures, I doubt not

not but that the ſame appearances in thoſe ſutures would likewiſe have followed.

I have lately ſeen the patient in perfect health.

Glouceſter,
May 2, 1787.

XVII. *Caſe*

XVII. *Caſe of a Rupture of the Corpora Cavernoſa Penis. By Mr.* CHARLES BRANDON TRYE, *Surgeon of the Glouceſter Infirmary. Communicated by Mr.* HENRY WATSON, F.R.S. *Read September* 18, 1787.

A young man happening to fall down in the ſtreet while his penis was in a ſtate of erection, ſtruck that part againſt the ground with great violence. He was inſtantly ſeized with a moſt excruciating pain in the part; and a torrent of blood guſhed from the urethra, which continued to flow for ſome time. He walked home with great difficulty, and remained in violent pain till I ſaw him, which was about twelve or fourteen hours after his receiving the injury.

I found the penis very black, and ſwollen to an enormous ſize. The prepuce likewiſe was ſo much loaded with blood, as to produce a phymoſis; and there was an extravaſation

vaſation of the ſame fluid through the cellular ſubſtance of the ſcrotum and perinæum. He had drunk freely previous to his fall, and had now frequent and painful efforts to make water: his bladder conſequently was pretty much diſtended.

I endeavoured in vain to paſs a common fized catheter, and the attempt was followed by a copious flow of blood.

I therefore made ſeveral inciſions into the prepuce and body of the penis, from which I preſſed out a conſiderable quantity of blood; after which a ſmall catheter was with ſome difficulty paſſed into the bladder, and a large quantity of bloody urine came away, to the great relief of the patient.

The penis was then wrapped up in rags ſoaked in ſpirit of wine; and at night I made ſeveral other inciſions in the prepuce and integuments, and preſſed out more blood.

Blood was taken from his arm, and ſtools were procured by glauber's ſalt and clyſters.

The ſwelling of the penis diminiſhed very much. That part of it which was moſt

moſt ſore to the touch, was on one ſide, and near the inſertion of the ligamentum ſuſpenſorium; in which part there appeared (by the paſſing of the catheter) to be a conſiderable laceration. The difficulty of introducing the ſmall catheter this evening was again conſiderable, and the urine was of a reddiſh chocolate colour, probably owing to the blood which had been diſſolved in it.

It is unneceſſary to give a detail of every day's proceeding. The retention continued eight days, the urine gradually returning to its natural colour, and the prepuce, ſcrotum, penis, &c. to their natural ſtate. In proportion as the ſwelling of the parts was diminiſhed, by the blood being abſorbed or removed from the cellular ſubſtance, the difficulty of paſſing the inſtrument was leſſened, and at length a large catheter could be uſed with eaſe.

On the ninth day he made water himſelf, though not without great pain.

On the twelfth day a large portion of the integuments, about the middle of the length of the penis, ſloughed away;

away; and it was evident that ſome part of the urethra had alſo ſloughed, as almoſt all the urine came through the ſubſequent ulcer. But by the uſe of bougies, the water was made to take its natural courſe, and at the expiration of three weeks from the time of the accident, the tumefaction of the parts was entirely gone; the patient made his urine perfectly well, and nothing unnatural remained excepting the ſore from the ſloughing of the integuments of the penis, which was very ſmall, and in a ſtate of healing.

He then left the town with a ſupply of dreſſings and bougies, and no doubt was in a ſhort time cured.

Sloughs were thrown off from the prepuce, but the ulcers were healed up in a few days.

Let me remark, that it ſeems manifeſt, that when the cellular ſubſtance of the penis, &c. was ſo loaded with blood as to compreſs the ſides of the urethra together, then no more blood could be poured out through the urethra, but made its way

through the poſterior part of that canal into the bladder. This concluſion is made from my having obſerved the quantity of blood which came off of a florid colour the firſt time the catheter was paſſed, for then it had not remained long enough extravaſated to undergo a change.

XVIII. *Account*

XVIII. *Account of a mortified Hand, which was taken off at the Joint of the Wriſt. By Mr.* JOHN LATHAM, F.R.S. *Surgeon at Dartford in Kent. Communicated by Dr.* GRAY. *Read October* 2, 1787.

SOME years ſince I was called to viſit a publican's wife, between thirty and forty years of age, who had been brought to bed about a week before. Her labour had been natural, and every thing ſeemed to go on well till the evening before I ſaw her, when ſhe was ſeized with a ſlight ſhivering; after which the left hand and arm became much ſwelled, and very painful. As ſhe had had no ſtool ſince her delivery, and was feveriſh, I ordered ſome opening and cooling medicines, with an anodyne liniment for the limb.

On calling the next day, I found that ſhe had taken very little of the medicine; nor could I perſuade her, at that time, that any further care was neceſſary: two days after, however, ſhe ſent for me again; the pain and ſwelling of the arm being then

much increaſed, and the whole hand ſomewhat diſcoloured.

I now ordered her a purging medicine, which operated very plentifully. The common fomentation, with camphorated ſpirit, was applied to the limb, and it was then wrapped in a bread and milk poultice, to which were added three drachms of the thebaic tincture. She alſo was directed to take one drachm of bark in powder, every three hours, in a cupful of cordial mixture: this was continued about ſix and thirty hours, when her ſtomach rejecting it, I adviſed, in its ſtead, a decoction of bark with the cordial confection, and a plentiful uſe of red port wine. This method was continued, with the addition of an opiate at night occaſionally, for ſix or ſeven days, at which time the three firſt fingers were black, and void of feeling, and began to ſeparate at the knuckles. The thumb and little finger ſtill retained a ſlight degree of ſenſation, and the reſt of the hand looked better. In nine days more the three fingers had become quite putrid, and were ſo ſlightly attached that I thought

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it right to remove them, which I did without pain or loſs of blood.

After this ſhe went on ſo well for four or five days, that I hoped a ſtop was put to the further progreſs of the diſeaſe; but ſhe was then again ſeized with a ſlight ſhivering, with delirium, and refuſed to take any medicine whatever for twenty-four hours; at the end of which time I found the arm in as great pain as at the firſt, and the remaining part of the hand more ſwelled than ever. Upon this I gave her an opening medicine, which operated plentifully, and ſhe then took forty drops of the thebaic tincture, which procured reſt for the greater part of that night.

On ſeeing her again the next morning, the bark was had recourſe to as before, and the whole limb was enveloped with a poultice compoſed of powder of bark, and of the ingredients of the cummin cataplaſm, each an ounce, of oatmeal a pound, and of the grounds of ſtale beer a quantity ſufficient to bring the whole into a proper conſiſtence.

The bark being again rejected, I gave her a warm cordial mixture with camphor:

that alſo diſagreeing in a few days, the camphor was omitted, and plenty of red port wine was given to her, with an opiate every night.

In about a fortnight more, the parts above the wriſt had nearly recovered their natural colour, but below it all was black and putrid, and the connexion at the joint of the wriſt was very looſe. In this ſtate I thought it right again to remove the putrid parts, which was done as before without pain or loſs of blood. I muſt own, that at this time I had no other motive, in the removal of the putrid parts, than the comfort of my patient, intending to amputate at the uſual place when ſhe ſhould be ſufficiently reſtored.

I obſerved, however, that the integuments did not recede as I expected, and that granulations ſprung up ſo faſt, as to give me hopes they might at laſt wholly cover the extremities of the bones, and of courſe ſuperſede the neceſſity of a future operation, which circumſtance did ultimately happen, yet not without a further effort of Nature which I did not then foreſee; for at the time when I daily expected

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the ends of the bones would be covered with granulations, I began to feel the tip of the ulna looſe; after a few more dreſſings it gradually protruded, and at the end of a week I was able to remove it with great eaſe, when I found the exfoliation had extended about an inch upwards. A ſhort time after this, the end of the radius became looſe, and in leſs than a fortnight came away, as the end of the ulna had done, but half an inch longer.

After this nothing more was neceſſary than to dreſs the ſore in the uſual manner, and in about ſix weeks more the cure was completed, the ſtump being as firm and even as after amputations in the uſual way.

Dartford,
September 16, 1787.

XIX. *Of the different Kinds or Species of Inflammation, and of the Cauſes to which thoſe differences may be aſcribed.* By JAMES CARMICHAEL SMYTH, M.D. *Fellow of the College of Phyſicians, and of the Royal Society; and Phyſician Extraordinary to his Majeſty. Read January* 8, 1788.

THE word Inflammation has commonly been conſidered as a general title, comprehending under it a variety of forms or ſpecies, which were ſuppoſed to be diſtinguiſhed by peculiar and characteriſtick ſymptoms *. But Phyſic is far from having attained this degree of perfection; for, though ſome of thoſe diſtinctions † have been

* Hæc enim (ſciz phlegmonè vel Inflammatio) frequentiſſime incidit, & plurimas habet differentias, &c. Harum autem cuique ſuam inveneris differentiam ex quo ejus tum ſpecies cognoſcitur, tum idoneum remedium ſuppeditatur. Galen. ad Glaucon. de Med. Method. lib. ii. cap. 1.

† Prima itaque Inflammationis differentia eſt quæ in humidam & ſiccam diſtinguitur, υγραν την δι ξηραν, ejus (ſciz. humidæ) multæ ſunt ſpecies, una ex ſanguinis, altera ex bilis, tertia ex utriuſque ſimul defluxione. Id. eod.

been noticed by phyſicians, the greater number have paſſed unobſerved, or have not been marked with that accuracy which the importance of the ſubject requires.

After having, for a conſiderable time, carefully attended to the various forms of Inflammation, it appears to me, that the principal cauſes of ſpecific diſtinction amongſt them, may be referred to one or other of the four following circumſtances.

The firſt, is the cauſe exciting the inflammation.

The ſecond, the function, or uſe in the animal œconomy, of the part inflamed.

The third, the natural texture or ſtructure of the ſame.

The fourth, that texture or ſtructure of a part which is not natural to it, but is the conſequence of ſome previous diſeaſe.

Although the proximate cauſe of Inflammation, to uſe the language of Pathologiſts, muſt in every inſtance be one and the ſame; the more remote and evident cauſes, the objects of ſenſe and of obſervation are widely different, and have conſiderable influence in varying

varying both the appearance and nature of the diſeaſe. This fact, of which every one is competent to judge, requires no illuſtration to phyſicians of experience; to others, ſome examples may be neceſſary.

The Ophthalmia, or Inflammation of the Eye, which is frequently brought on by cold or external injury, is often the conſequence of a ſcrophulous or venereal taint. But the diſeaſe, though the ſame in appearance *, is found to differ very eſſentially, and to require a very different treatment, according to the nature of the cauſe.

The appearance, termination, and method of cure in the Angina, or Inflammation of the fauces, are extremely different, where the complaint has been owing to cold; has ariſen from a venereal infection; or has been occaſioned by contagious miaſmata.

There is alſo a very material difference between the inflammation of the capſular ligaments of the joints, when cauſed by gout, or

* Although in many inſtances, we may not be able, at firſt ſight, to diſtinguiſh the cauſe of an Ophthalmia, yet phyſicians of experience will ſeldom be miſtaken in judging of this, even from the appearance of the Inflammation.

or where the diſeaſe is the conſequence of ſcrophula, or of the Venereal Virus * ; and in all thoſe caſes the obſervation of Celſus is peculiarly appoſite. " Eum recte " curaturum quem prima origo cauſæ non " fefellerit †."

The inflammation of lymphatic glands may be adduced, as a farther illuſtration of the influence of the cauſe, in modifying the appearance and termination of this diſeaſe. Children, and young women during menſtruation, are frequently, from catching cold, ſeized with ſwelling and inflammation of the lymphatic glands in the neck; the ſame thing happens, not only to the glands in the neck, but to the lymphatic glands in other parts of the body, from a ſtrumous or ſcrophulous diſpoſition; or from the abſorption of acrimony. And it is a well known fact, that according to the nature of that acrimony, the progreſs

* The Venereal Virus, though not in general diſpoſed to attack the capſular ligaments, ſometimes affects the joint of the knee. and where it does, the diagnoſtic is not always very obvious. I remember two inſtances of this, where the late Mr. Pott gained great and deſerved credit by his ſagacity and diſcernment.

† Celſ. in Præf.

progreſs and termination of the inflammation are widely different. How oppoſite, for inſtance, are the effects that follow from the abſorption of venereal, cancerous, or ſeptic acrimonies, and yet all of them, in the firſt inſtance, excite pain and inflammation.

As a ſtill farther proof of what is now affirmed, I might mention the various appearance of eryſipelatous inflammations, according to the different cauſes producing them; but I ſhall have occaſion by and by to treat more fully of this ſubject: and the examples already given, are, I think, fully ſufficient to prove the immediate influence of the cauſe in determining the nature, and conſequently the ſpecies of the diſeaſe.

The ſecond circumſtance mentioned as a cauſe or ſource of ſpecific diſtinction amongſt inflammations, was the function of the part inflamed; this circumſtance, perhaps the leaſt important of any, has, from being the moſt obvious, given riſe to the greateſt number of diſtinctions amongſt inflammations; Phyſicians having looked upon the inflammation of every particular organ of the

the body as a diſtinct and ſpecific diſeaſe; this is evident from the long liſt of names to be met with in every book of phyſic, expreſſive of each individual part of the body, with the Greek termination (itis), as Phrenitis, Pleuritis, Hepatitis, Nephritis, &c. Now, although the propriety, and even advantage of diſtinguiſhing with accuracy the organ immediately affected by inflammation, cannot be called in queſtion, yet we muſt acknowledge, that in all ſuch caſes, the great difference in the ſymptoms is more owing to a difference in the function of the part inflamed, than to any ſpecific difference in the nature of the inflammation, which, in moſt inſtances of viſceral inflammation, is nearly of the ſame kind; terminates in the ſame manner; and requires the ſame general treatment.

The third circumſtance, ſtated as a cauſe of ſpecific diſtinction amongſt inflammations, was the peculiar texture or ſtructure of the part inflamed; a circumſtance which, though hitherto over-looked, or but ſlightly attended to, ſeems to conſtitute ſome of the moſt important diſtinctions of this diſeaſe.

Expe-

Experience has long ſince taught us, that every part of an animal body, the cuticle and hair perhaps excepted, is liable to inflammation; and, by attending ſtrictly to the phænomena, it is equally evident, that according to the nature of the part affected the diſeaſe puts on a different appearance; is accompanied by different ſymptoms; is of various termination; becomes more or leſs acute or chronic; and requires a different, and at times an oppoſite, treatment. I do not, however, pretend to have fully inveſtigated this ſubject, or to be able to aſcertain all the various ſhades of inflammation, according to the great diverſity of ſtructure obſervable in the different parts of the body. I only propoſe to give the outlines of ſome of the moſt obvious and ſtriking diſtinctions originating from this ſource; and which, as they occur frequently in practice, are of more immediate concern to the practical phyſician.

The following, then, in my opinion, may be juſtly conſidered as diſtinct ſpecies of inflammation, each of them having a ſpecific character, ſtrongly marked, which, in every inſtance, ſeems entirely to depend upon

upon the peculiar ſtructure of the part inflamed.

1ſt.	The inflammation of the	Skin. *Eryſipelas.*
2d.	———	Cellular Membrane. *Phlegmon.*
3d.	———	Diaphanous Membranes.
4th.	———	Mucous Membranes.
5th.	———	Muſcular Fibres.

Of the Eryſipelas, or Inflammation of the Skin.

Various have been the opinions of phyſicians reſpecting the eryſipelas, by ſome it has been ranked amongſt inflammations, whilſt by others it has been excluded from that claſs; and though, even in the time of Galen, it was generally ſuppoſed to be an affection of the ſkin *, yet the peculiar character of the diſeaſe was aſcribed, not to the nature of the part affected, but to the nature of the cauſe producing it †.

That the eryſipelas is a true inflammation, is proved by the redneſs, heat, ſwelling, and painful ſoreneſs of the part; ſymptoms which are conſtantly preſent, and

* Itaque exquiſitum eryſipelas ſolius cutis eſt affectus. Galen ad Glaucon. Lib. 9. Cap. 1.

† Quod ſi ex ſanguine et flava bile juſto calidioribus fluxio miſta fuerit, aut ex ſanguine quidem ſed fervido ac ſubſtantia tenuiſſimo, affectus eryſipelas vocatur, &c. Ib.

and coincide exactly with the general character of inflammation given by Celſus. "Notæ vero inflammationis ſunt quatuor, rubor & tumor, cum calore & dolore*." That the ſkin is the part principally affected in this inflammation, is obvious to the ſight. But, that it is the only part affected, and that the peculiarity of the ſymptoms is entirely owing to this circumſtance, are opinions which require ſome farther illuſtration.

In objection to the firſt opinion, it may be ſaid, that as the eryſipelas is uſually accompanied with conſiderable ſwelling of the part, and as this ſwelling is occaſioned by the extravaſation of a fluid into the cellular membrane under the ſkin, it follows that not only the ſkin, but the cellular membrane likewiſe is inflamed. The facts are certainly true, but not the concluſion. It is very certain, that eryſipelatous inflammations are commonly accompanied with ſwelling of the part; and that this ſwelling is the effect of an extravaſation of a fluid under the ſkin. But it does

* Celſ. Lib. iii. Cap. x.

does not follow, that the cellular membrane, though filled with a ſerous exſudation, is therefore in a ſtate of actual inflammation; the contrary, I imagine, is clearly proved by the abſence of pulſation, and of ſuppuration. On the other hand poſſibly, it may be argued, that although caſes purely eryſipelatous do not terminate in ſuppuration, yet inſtances every now and then occur, where, the inflammation having been communicated from the ſkin to the cellular membrane, ſuppuration and abſceſs have been the conſequence. To this I reply, that before ſuch an event takes place, the inflammation has ceaſed to be eryſipelatous, or at leaſt has become of a mixed kind.

That the ſkin then is the true ſeat of the eryſipelas, muſt be univerſally admitted; but I have gone a ſtep further, and maintained, that the phænomena of this inflammation, and the peculiarity of the ſymptoms, are entirely owing to the nature or texture of the ſkin. This opinion may perhaps ſeem improbable to perſons unacquainted with the ſubject, but ſurely it will not appear ſo to thoſe, who reflect on the analogy obſervable between the ſkin

and other membranes; or who conſider with attention the ſymptoms that characterize the diſeaſe, which cannot, I apprehend, be explained on any other hypotheſis. The moſt remarkable of theſe are; The uniformity in the heat and redneſs of every part of the inflamed ſurface; the extent of the inflammation; the ſudden and irregular manner in which it ſpreads; the peculiarity of its termination, which, whilſt it remains purely eryſipelatous, is never in ſuppuration, but in veſications ſloughineſs, or gangrene. But what ſeems to me perfectly concluſive in regard to the queſtion, is, that the pathognomic ſymptoms, or thoſe which conſtitute the diſeaſe, are conſtantly and uniformly the ſame, though the cauſes which produce it are numerous, and of great variety. To give however to this argument its full force, it is neceſſary to point out the different cauſes of eryſipelas; a taſk which becomes the more indiſpenſable, as an idea has generally prevailed, that thoſe cauſes, though different in appearance, might all be referred to acrimony alone. But that this concluſion has been too haſtily made, will plainly appear

pear from conſidering the five following heads, under which I have arranged the different cauſes of this affection.

1. *Mechanical injury*, as wounds or diſtention.
2. *Heat and Cold.*
3. *The bite or ſting of inſects.*
4. *Chemical Acrimony.*
5. *Fever.*

That eryſipelatous inflammation is frequently cauſed by wounds, is an obſervation of antient date. Celſus ſays, " Id autem quod eryſipelas vocari dixi, non ſolum vulneri ſupervenire, ſed ſine hoc quoque oriri conſuevit *." That it follows ſome kind of wounds more frequently than others, is a fact alſo well known to ſurgeons. Thoſe that it accompanies moſt commonly, are gun-ſhot wounds, wounds of the head, or wounds with laceration. It likewiſe often ſupervenes ſcarification of the legs in dropſies; even diſtention in thoſe caſes, will ſometimes produce it. Of this I have ſeen many examples,

* Lib. v. Capr xxvi. §. 33.

when the ſwelling was great, had increaſed ſuddenly, or when the ſkin did not readily yield to the diſtending fluid.

That heat is a frequent cauſe of eryſipelatous inflammation, is generally known. There are few people who have not experienced in their own perſons, the immediate pain, inflammation, and veſication, cauſed by boiling water. Even the rays of the ſun, a degree of heat infinitely below that of boiling water, will frequently produce inflammation where the ſkin is very delicate; yet no one ever ſuppoſed, that either the ſun's rays or boiling water poſſeſſed any particular acrimony. During the winter ſeaſon, the hands and feet of children often bear the marks of the effect of cold; or to ſpeak more philoſophically, of heat below the freezing point: the chilblains with which they are ſo much afflicted, being inflammations of the eryſipelatous kind, terminating ſometimes in very deep and painful ulcerations.

Another not unfrequent cauſe of eryſipelatous inflammation, particularly during ſummer, and in warm climates, is the bite or ſting of inſects; the pain, ſwelling,

ing, and inflammation that follow from theſe, is ſometimes very great. In this caſe, I allow there is ſome reaſon to ſuſpect acrimony, as ſuch effects cannot be ſuppoſed to ariſe from mechanical injury alone, eſpecially when the injury is almoſt imperceptible. But although we give the name of acrimony to theſe poiſons, we muſt confeſs that we are little acquainted with their nature and powers; and that they are very different from others which we diſtinguiſh by the appellation of chemical acrimonies.

The chemical acrimonies are principally ſaline bodies, either acids or alkalines; which, when concentrated to a certain degree, act as cauſtics, deſtroying entirely, or diſſolving the animal fibres, and in a weaker or more diluted ſtate excite inflammation. Beſides ſaline bodies, the eſſential oils, and ſome reſins, as euphorbium, produce, though in a ſlighter degree the ſame effect. Whether the operation of cantharides depends on an acid or reſin, or if they poſſeſs ſome ſpecific power of inflaming the ſkin, I will not pretend to determine.

To the foregoing inſtances of eryſipelatous inflammation, the effect of cauſes merely local, ſyſtematic writers have given the name of Erythema, to diſtinguiſh them from the ſame diſeaſe when connected with fever, or the conſequence of ſome general indiſpoſition.

Of eryſipelatous inflammation connected with fever, there are ſeveral varieties. The following are what we moſt frequently meet with in practice.

The Roſe, or Eryſipelas of the extremities.

The Sideratio, or Eryſipelas of the head and face.

The Zona, or *Belt*, ſo called from its ſpreading round the waiſt,

The Symptomatic Eryſipelas, which generally comes out in patches on different parts of the body, without the ſmalleſt alleviation of the ſymptoms, ſometimes in bilious, and often in contagious and malignant fevers.

The Roſe, or Eryſipelas of the extremities is commonly preceded by lowneſs, laſſitude, loſs of appetite, and always by coldneſs or ſhivering, ſucceeded by a very ſmart fever reſembling the paroxyſm of an inter-

intermittent, during which the patient is ſometimes delirious, but the febrile ſymptoms, though violent, are ſeldom of long continuance, and ſubſide almoſt immediately upon the appearance of the inflammation, and they ſoon ceaſe entirely, where the natural progreſs of the diſeaſe is not interrupted.

In the Sideratio, or Eryſipelas of the head, the ſymptoms of fever are not always mitigated upon the appearance of the inflammation; on the contrary, the pulſe in ſome caſes becomes more frequent, whilſt the inflammation continues for ſome days to ſpread or ſhift from place to place; yet notwithſtanding this ſenſible difference between the Roſe and Sideratio, which greatly encreaſes the danger of the latter, I conſider the Eryſipelas to be in the one caſe, as much as in the other, a critical ſolution of the fever; and think that the difference between them depends upon the inflammation or exanthema, if I may be allowed the expreſſion, being ſlower * in coming out

* Is not this circumſtance owing to the different thickneſs and texture of the ſkin in thoſe parts of the body? Is it not

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out on the head and face, and upon its being accompanied, from the greater pain and irritation, with a higher ſecondary, or ſymptomatic fever.

The Zona, or Belt, though commonly reckoned an Eryſipelas, ſeems to partake more of the nature of a herpes *, coming out in puſtules or pimples; it commonly ſpreads round the waiſt, often as high as the precordia. I have ſeen it alſo ſpread round the neck and ſhoulder. This ſpecies of eryſipelas has been accounted extremely dangerous, a character which it ſurely does not deſerve, unleſs where the patient is in the decline of life, has the liver or ſome of the viſcera in a diſeaſed ſtate, or

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owing to the ſame cauſe, that the ſmall-pocks are often confluent upon the face and head, whilſt they are diſtinct every where elſe.

* Galen conſiders the Eryſipelas and Herpes only as varieties of the ſame diſeaſe. In his Book de Tumor. præter naturam, cap. ix. after prefacing Λεπίου δὲ ὀφθὲν τὸ χολῶδη ϛεμμαῖα, he adds, Quum igitur bilioſus humor aliquo decubuerit, ſincerus quidem cutem exulcerat, qui vero aqueæ ſaniei aut ſanguini mixtus, minus eſt acris, et majis partem in tumorem attollit quam exulcerat. Hoc itaque Eryſipelas appellatur alterum Herpes.

Vid. Lib. i. Cap. ix.

is, in other reſpects, in a bad habit of body. I have frequently ſeen the diſeaſe in children, or in young people, without a ſingle alarming ſymptom.

Beſides the three kinds of eryſipelatous inflammation mentioned above, in all of which the inflammation or eruption is more or leſs critical, the eryſipelas ſometimes occurs in fevers purely as a ſymptom, altogether unconnected with the ſolution or termination of the diſeaſe. Examples of this are common in epidemical anginas, ſometimes in epidemical catarrhs, and in other fevers ariſing from contagion. I have likewiſe, eſpecially after very hot ſummers, obſerved eryſipelatous patches in fevers where there was no ſuſpicion of contagion, but where, from the yellowneſs of the eyes, tongue, urine, &c. the redundancy of bile in the conſtitution plainly appeared.

Having in the preceding account of eryſipelatous inflammation, had occaſion to remark that it is excited by very oppoſite cauſes, we ſhould be apt to conclude, that in this, as in other inflammations, the appearance and termination of the diſeaſe muſt be ſomewhat affected by the difference

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of the cauſe producing it; and a little experience will ſoon evince the truth of this analogical reaſoning; as we find that even thoſe ſymptoms which characterize the diſeaſe, from their being conſtantly and neceſſarily preſent, appear ſomewhat different, according to the difference of the cauſe. Thus the redneſs is more or leſs florid, yellowiſh, or crimſon; the ſwelling more or leſs conſiderable; the heat, ſoreneſs, or pain, greater or leſs; the inflamed ſurface dry or moiſt, with or without veſications; the diſeaſe, even where the ſymptoms have been extremely violent, ſometimes goes off kindly; at other times, with ſymptoms indicating but a ſlight affection, it terminates in foul ulcers, or ſuddenly in gangrene, mortification, and death.

Do not the preceding facts naturally lead to the following concluſions? 1ſt. That the Eryſipelas is an inflammation of the ſkin only. 2dly. That the peculiarity of this inflammation depends ſolely on the nature and texture of the ſkin. 3dly. That acrimony, though a frequent cauſe, is by no means the only one capable of producing it. And 4thly.

4thly. That though the difference of the cauſe can not in this inſtance alter the nature, yet it has conſiderable influence on the appearance and ſymptoms, of the diſeaſe.

To the firſt concluſion it may be objected, that as the Eryſipelatous Inflammation ſometimes recedes, or is repelled from the ſkin, and attacks other parts of the body, particularly the brain and lungs, thoſe parts, as well as the ſkin, muſt be ſubject to this affection. The obſervation is certainly juſt, but not the inference. I admit, that the ſame cauſe which produced inflammation of the ſkin may equally excite it any where elſe: but it does not follow, that thoſe inflammations, though ariſing from the ſame cauſe, ſhould be of a ſimilar nature, when the part affected is ſo extremely different. I affirm on the contrary, that there is not the ſmalleſt reſemblance between the ſymptoms of the eryſipelas of the head, and the delirium or coma which is brought on by this inflammation receding and affecting the brain: nor, to invert the propoſition, is the peripneumony occaſioned by the retroceſſion of the

the meaſles (an inflammation analogous to the eryſipelas) in any reſpect different from the ſame diſeaſe produced by other cauſes.

From my own obſervation, I know no part of the body but the ſkin, or fauces, which ſtrictly ſpeaking is a continuation of the ſkin, that is liable to the true eryſipelatous inflammation, and therefore I conclude, that the peculiarities of this inflammation are entirely owing to the nature of the ſkin itſelf.

Before quitting the ſubject of Eryſipelas, it may be proper to take notice of the very oppoſite methods which have been adopted for the cure of it: for whilſt ſome phyſicians, influenced by the affinity betwixt this and other inflammations, have ſtrictly adhered to what is called the antiphlogiſtic plan; others, apprehenſive of the termination in gangrene, have as conſtantly, and from the beginning, followed an oppoſite mode of treatment. Both methods have had their advocates, and both parties have appealed to experience in ſupport of their opinions. But experience, when impartially conſulted, will be found to decide,

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in this, as in moſt other caſes of diſpute, that both are occaſionally right, and both occaſionally wrong; they are both right in affirming, that the practice they recommend has at times been ſucceſsful; and they are both wrong when they maintain, that any one method of cure has been univerſally ſo. Sometimes the one, ſometimes the other method is preferable, and often neither one nor the other can be ſtrictly adhered to. A judicious phyſician will always be more guided by the particular circumſtances of the caſe, than by the name of the diſeaſe; and before he determines on the plan to be purſued, will conſider well the age and conſtitution of his patient, the part of the body affected; the ſeaſon of the year; cauſe of the complaint; appearance and ſtage of the inflammation, with the degree and nature of the fever accompanying it: and even when he has done ſo, will proceed with caution, attending to the effect of the remedies he has preſcribed, and never forgetting, that though in all probability he is right, yet there is a poſſibility of his being miſtaken.

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In general we may venture to ſay, that the lancet is ſeldom neceſſary for the cure of the eryſipelas; but that we frequently experience the moſt ſalutary effects from the uſe of emetics, gentle laxatives, and neutral ſalts, eſpecially when combined with camphire, abſorbents, ſweet ſpirit of vitriol, æther, &c. that caſes alſo occur, in which (particularly towards the concluſion) the ſtrength of the patient requires to be ſupported by broths, wine, &c. and where the free uſe of bark, with aromatic cordials, is requiſite to check the tendency to gangrene. At the ſame time I think it a duty to declare, that from the injudicious uſe of thoſe medicines, in the beginning of the diſeaſe, I have often ſeen the tendency to gangrene accelerated; nay, evidently brought on by the very means employed to prevent it.

Of the Phlegmon, or Inflammation of the Cellular Membrane.

This ſpecies of Inflammation, by far the moſt frequent of any, was known to the Greeks by the name of Phlegmone; which word

word had alſo, amongſt the writers of this ingenious people, a general ſignification, ſimilar to the Inflammatio of the Latins. Galen, to whom we are indebted for this information, has at the ſame time given us a very accurate deſcription or definition of this particular ſpecies *; in which he has pointed out not only the moſt diſtinguiſhing ſymptom (*dolor punctorius*) but alſo the ſeat of the complaint (*carnoſis in partibus*) to which two circumſtances he might have added a third, equally characteriſtick of this inflammation, viz. its termination in ſuppuration or abſceſs.

I have ſaid, that the Phlegmon is the inflammation of the cellular membrane, meaning to include under this name, not only the membrane ſtrictly ſo called by anatomiſts, but likewiſe the adipoſe membrane, together with the glands and viſcera: theſe having a ſimilar looſe ſpungy texture, conſiſting principally of cellular membrane, connecting an infinite ſeries

* Hoc phlegmones nomen Græcis dici conſuevit, de carnoſis partibus, majorem in molem, cum tenſione, renixu, dolore pulſatorio, calore et rubore extuberantibus. Galen De Tumor. præter naturam. Lib. i. Cap. ii.

ſeries of minute blood veſſels and nerves. Thoſe parts of the body then, and probably thoſe only are ſuſceptible of phlegmonic inflammation; the laxity of their texture readily yielding to diſtention, having arteries of a ſize ſufficient to occaſion pulſation; whilſt at the ſame time the ſtructure of the parts is ſo extremely ſoft and delicate, as to be eaſily deſtroyed by the inflammation, and changed along with the extravaſated fluids into that uniform milky fluid called pus, or purulent matter.

Such is the ſeat, and ſuch are the peculiar circumſtances, attending Phlegmonic Inflammatión. In reſpect to the cauſes of this, they are, as we have already ſeen in the caſe of eryſipelas, of different kinds. The moſt common, and conſequently thoſe with which we are beſt acquainted, are the following.

1. *Mechanical injury.*
2. *Acrimony.*
3. *Obſtruction.*
4. *Fever.*

It is unneceſſary to make any remarks on the power of mechanical injury; its effects are ſufficiently known.

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I already, when ſpeaking of acrimony, took notice, that it was reckoned by ſome phyſicians the only cauſe of eryſipelatous inflammation. An opinion has alſo prevailed, equally erroneous indeed, that it was the cauſe of eryſipelatous inflammation only. The venereal bubo, though cauſed by acrimony, is a true phlegmonic inflammation; and the puſtules of the diſtinct ſmall-pox muſt be allowed to be an example of the ſame kind. But if phlegmonic inflammation can be excited by acrimonies that are known, we have a right to conclude, that it may equally be excited by others with which we are unacquainted. "Nam quod evidentes cauſæ faciunt, facere etiam abditæ poſſunt."

That obſtruction is the ſole and immediate cauſe of inflammation, was long a favourite doctrine in the ſchools of phyſic; and, notwithſtanding this part of the pathology of Boerhaave is now laid aſide, we muſt ſtill allow, that obſtruction, if not the direct and immediate cauſe of inflammation, is at leaſt a circumſtance which, concurring with others, frequently gives

riſe to it: for if we are taught by experience, that obſtruction often exiſts for years without any appearance of inflammation, we learn from the ſame authority, that inflammation is induced on every occaſion where obſtruction is accompanied by tenſion and pain.

We have ſeen that Fever is a cauſe of eryſipelatous inflammation; it is equally ſo of the phlegmonic: but as it is often likewiſe a ſymptom, it becomes every now and then a queſtion, not very eaſy to determine, whether the fever is the cauſe or effect; fortunately the treatment of the patient is the ſame in either caſe. Another queſtion preſents itſelf, ſtill more curious and intereſting to the pathologiſt, though probably not of much more utility to the practical phyſician---In what manner does fever occaſion phlegmonic inflammation?

To anſwer this queſtion properly, would lead me into a longer digreſſion than the limits of ſuch a paper as the preſent demands, I ſhall therefore only mention a few facts, as data neceſſary to be eſtabliſhed before

before we attempt any reaſoning on this ſubject.

In the firſt place, it is evident, That the preternatural diſtention of any part of the arterious ſyſtem, when to ſuch a degree as to occaſion pain and irritation, neceſſarily cauſes inflammation.

2dly. That in the beginning of fevers, eſpecially of thoſe accompanied with inflammation, the action of the heart and arteries is greatly increaſed, conſequently the circulation is more rapid, and the momentum of the blood greater than uſual.

3dly. That during the acceſſion of fever there is not only a more rapid, but alſo, (owing to the irregular ſpaſmodic affections of the arterious ſyſtem,) an unequal circulation of the blood; and this inequality in the circulation, for reaſons extremely obvious to the phyſiologiſt, is moſt ſenſibly felt in the brain and lungs; and therefore thoſe organs of the body are more liable to ſuffer from this cauſe.

4thly. Independently of the peculiar ſituation of the brain and lungs, we may affirm it to be conformable to general obſer-

vation, that inflammation brought on by fever, attacks moſt commonly thoſe parts of the body where there has been previous obſtruction, local weakneſs, or partial irritation.

5thly. Towards the end of fevers the parotid, axillary, or inguinal glands, are ſometimes inflamed, and when that happens, the ſymptoms of fever ſubſide as the ſuppuration advances.

The preceding facts will, I imagine, be found of conſiderable importance in anſwering the queſtion propoſed. But I ſhall leave the ingenuity of the reader to draw from them his own concluſions.

Although ſuppuration is the uſual and peculiar termination of the phlegmon, yet this inflammation, as well as the eryſipelas, ſometimes terminates in gangrene; never, in my opinion, from the violence of the ſymptoms or pain accompanying it, but always owing to the nature of the cauſe, or to the conſtitution of the patient.

Even amongſt phlegmonic inflammations, there is probably ſome difference of termination, according to the different organization of the part; the phlegmon of the lungs,

lungs,* for inſtance, may occaſionally terminate in a ſomewhat different manner from that of the liver, &c. but I throw out this rather as a conjecture than as a matter of obſervation.

In regard to the cure of Phlegmonic Inflammation, we may apply to it, what Sydenham, agreeable to the theory of the times, ſaid of the pleuriſy, that the morbific matter ſhould be evacuated at the orifice made by the lancet. There is certainly no ſpecies of inflammation which in the firſt ſtage requires a more free uſe of the lancet, or bears bleeding better, than the Phlegmon. To this however, as to every general rule, there are ſome exceptions. The phlegmonic inflammation, eſpecially

* I once, on examining the body of a man who died of a peripneumony, found that the diſeaſe had terminated in a way, which has only, I believe, been taken notice of, or rather the probability of it ſuggeſted, by my ingenious friend Dr. Cullen. The cellular ſubſtance of the lungs was filled with extravaſated blood. I lately met with an inſtance of the ſame kind, but where the lungs were only partially filled with bloody ſerum. The perſon alluded to was ſuddenly ſeized with a difficulty of breathing that ſoon proved fatal, when in appearance recovering from a putrid fever attended with aphthæ, during which the breathing was not in the ſmalleſt degree affected.

of the lungs, is not always purely inflammatory; it is ſometimes combined with catarrh; or with gout; or ariſes from cauſes which have a ſeptic tendency; or the inflammation is too far advanced towards ſuppuration to admit of reſolution: in all ſuch caſes bleeding is of doubtful efficacy, or highly improper. Where the termination in ſuppuration is unavoidable, every one knows that bleeding is prejudicial, that the ſtrength of the patient muſt then be ſupported, whilſt the veſſels of the inflamed part are relaxed by a moiſt heat, or even ſtimulated by warmer applications.

Of the Inflammation of Diaphanous Membranes.

Another ſpecies of inflammation claiming our particular attention, at preſent more known by its termination than by its ſymptoms, is the Inflammation of Diaphanous Membranes. Under this name I mean to comprehend all thoſe membranes of a firm hard texture, and of a certain degree of tranſparency; ſuch as the Pleura and

and Peritoneum, (whether conſtituting the common envelopements of the thoracic and abdominal viſcera, or forming the external covering of each particular viſcus), the Pericardium, Membranes of the brain, Tunica vaginalis teſtis, Perioſteum, and the Capſular Ligaments of the joints.

The illuſtrious Haller, a man whoſe various talents and extenſive learning rendered him an ornament to the age in which he lived, fell into a very great miſtake on this ſubject. Having obſerved in his experiments on living animals, the ſmall ſhare of ſenſibility which thoſe membranes, in their natural ſtate ſeemed to poſſeſs, he concluded, too haſtily, that they could not be the ſeat of inflammation or of acute pain, and even went ſo far as to aſſert, that the intercoſtal muſcles, and not the pleura and lungs, according to the common received opinion, were the parts affected in the pleuriſy.

I need not now endeavour to refute an opinion ſufficiently contradicted by the ſymptoms of the diſeaſe, and by the numerous diſſections of morbid bodies. His miſtake, however, may ſerve to teach

us the extreme caution requiſite in applying phyſiological, and, I may add, chemical experiments, to explain the nature or phænomena of diſeaſes; and is a proof, among others, that Haller was more converſant with anatomy and phyſiology, than with the practice of phyſic.

From accurate obſervation and experiment we are now certain, that thoſe membranes, as well as other parts of the body, which ſhow little ſigns of ſenſibility in a natural ſtate, become, when affected by inflammation, exquiſitely ſenſible, and the ſeat of the moſt acute pain. It is alſo remarkable that though not very ſenſible to the uſual ſtimuli, they are affected in a ſingular manner by air; a ſtimulus which has little or no operation on other parts of the body endowed with the higheſt ſenſibility.

The particular ſymptoms which characterize or diſtinguiſh this ſpecies of inflammation, are not yet accurately aſcertained. We are certain, however, that it is attended with great pain, and with a high fever; and that the fever in this caſe, as in the

the phlegmon, is in proportion to the inflammation and pain. But it is the termination of the diſeaſe that in a particular manner diſtinguiſhes it both from the phlegmon and eryſipelas.

Diaphanous membranes, in conſequence of inflammation, are found thickened, opaque, ſloughy, with a gelatinous or purulent exſudation on their ſurface, ſometimes cauſing preternatural adheſions; at other times the cavities lined by thoſe membranes are filled with a turbid ſerum, with filaments floating in it. But what is now ſaid of thoſe membranes in general, will be beſt illuſtrated by particular examples. In the pleuriſy, the pleura is ſometimes the only part affected by inflammation; at other times, and what is the moſt common caſe, the pleura is only partially affected in conſequence of a phlegmon or abſceſs on ſome exterior part of the lungs. The ſymptoms which diſtinguiſh thoſe two kinds of pleuriſy, are not ſufficiently known. In the firſt the pain and ſoreneſs of the cheſt are probably more general, but without the laborious and oppreſſive breathing

of

of the peripneumony. In the true pleuriſy the ſhort cough, and acute pungent pain in the ſide, almoſt entirely preventing inſpiration, ſufficiently mark the diſeaſe. I have myſelf ſeen both theſe complaints, and the diſſections of the moſt diſtinguiſhed anatomiſts * afford complete evidence of their reality.

The inflammation of the peritoneum is ſtill more frequent than that of the pleura. It frequently happens in puerperal fevers, and in my mind, conſtitutes the moſt eſſential ſymptom of that diſeaſe: at leaſt I have always ſeen the marks of peritoneal inflammation, in thoſe puerperals, whoſe bodies I have examined after death. The ſymptoms accompanying peritoneal inflammation, are fulneſs, tenſion, and a general ſoreneſs of the abdomen, with purging, and fever; the pulſe is remarkably ſmall, quick, and thready, and the ſlighteſt preſſure on the part cauſes pain, ſickneſs, and vomiting. Upon diſſection there is found a kind of gelatinous exſudation all over the inteſtines, and the cavity of the abdomen is often filled with a turbid whey-coloured ſerum,

* Vid. Morgagni, Lieutaud, W. Hunter, Hewſon.

ſerum, having more or leſs of a purulent appearance †.

The inflammation of the peritoneum, which ſo frequently occurs in puerperals, is not, I am perſuaded, altogether confined to perſons in that ſituation. I have met with the ſame ſymptoms in others, although I have not yet had an opportunity of aſcertaining the fact by diſſection.

That the pericardium is alſo ſubject to inflammation, appears from the inſpection of morbid bodies; we are as yet, however, unacquainted with the ſymptoms that diſtinguiſh this complaint, probably, beſides the general ſymptoms of pneumonic inflammation, it muſt be accompanied with violent palpitation of the heart, and irregularities in the pulſe.

Diſſections prove likewiſe, that the membranes of the brain, both the dura and pia mater, are ſometimes from fever, and frequently from external injury, affected by inflammation; and that the inflammation of

† I remember a Patient in the Middleſex Hoſpital, whoſe belly, after a puerperal fever, inflamed and burſt at the navel, when a large quantity of a fluid, ſuch as above deſcribed, was diſcharged at the wound.

of thoſe membranes terminates in a ſimilar manner with the inflammation of the pleura and peritoneum.

The inflammation of the tunica vaginalis teſtis occaſioned by the admiſſion of air, and the effect of this in cauſing an adheſion of that membrane to the teſticle, is the foundation of the common method of curing the hydrocele.

The inflammation of the perioſteum is not unuſual in ſcrophulous and venereal patients. In the latter the pain is ſometimes great, though ſeldom accompanied with any conſiderable fever; in the former the pain is leſs remarkable, owing to an inſenſibility peculiar to this diſeaſe. But the acute inflammation of the perioſteum, of which we have an example in the deep ſeated paronychia *, occaſions both violent pain and fever.

Amongſt the cauſes of inflammation peculiar to diaphanous membranes, I know

* The pain is often ſo exceſſive and tormenting, as to make the patient lament day and night, and in ſome conſtitutions it even excites a raging fever, with faintings, convulſions, delirium, an abſceſs or ſphacelus of the part, and without timely aſſiſtance death itſelf.

Vid. Heiſter's Surgery, p. 1. §. v. cap. clxx.

know none that is general but *air*, and even this is not ſtrictly ſo; for I do not believe it affects the perioſteum. As partial cauſes we may reckon *the venereal virus, the gout, and the ſcrophula*; the firſt attacking the perioſteum, the ſecond the capſular ligaments, and the third both; *pregnancy* may alſo be accounted a prediſpoſing cauſe, at leaſt to peritoneal inflammation. Of the inflammation of the pleura alone, I have ſeen but one example; the patient was a girl ſeven or eight years of age, and of a ſcrophulous family.

As we are ſo little acquainted with the ſymptoms that diſtinguiſh the inflammation of thoſe membranes, I can have little new to offer reſpecting the treatment. But, from the inſtances I have met with of peritoneal inflammation, I am inclined to believe, that it bears purging better than the phlegmon, tho' it does not admit of ſo liberal a uſe of the lancet; the ſtrength of the patient being more apt to ſink upon bleeding, and the diſeaſe to terminate like the eryſipelas in gangrene.

Of the Inflammation of mucous or pituitous Membranes.

A fourth, and very remarkable ſpecies of inflammation is that of mucous or pituitous membranes; an expreſſion certainly very appoſite, when applied to thoſe membranes which line the various paſſages and cavities of the body, that ſerve the purpoſe either of tranſmitting or of containing fluids: and, notwithſtanding there is great reaſon to believe that the ſtructure of thoſe membranes is ſomewhat different in different parts, according to the various purpoſes of the animal œconomy, it is extremely apparent, that there are certain qualities which they have in common, ſeemingly connected with the peculiarity of their function, and which ſerve to diſtinguiſh them from all others. Their texture is more ſoft and ſpungy than that of other membranes, their ſurface villous, and interſperſed with the ſmall openings of a number of glandular follicles, perpetually pouring out a thin tranſparent ropy fluid; which, whilſt it moiſtens their ſurface, ſerves to protect them from the acrimony

acrimony of the fluids, to which they are expoſed. Membranes with ſuch properties as have been now deſcribed, are found lining the noſe, fauces, larynx, trachea, pharynx, œſophagus, ſtomach, inteſtines, veſica urinæ, urethra, vagina, uterus, palpebræ, and forming the tunica adnata of the eye. In all thoſe parts they are liable to be inflamed, and the inflammation of them is always attended with ſimilar ſymptoms. The chief of which are the following:

An encreaſed thickneſs and ſenſibility of the membrane; the villous ſurface red and ſpungy, with a conſiderable ſenſe of heat and ſoreneſs, though ſeldom any very acute pain, unleſs what is occaſioned by a fluid paſſing along the inflamed ſurface. The mucus, which in a natural ſtate is a mild tranſparent ropy fluid, loſes its tenacity in conſequence of inflammation; at firſt it is thin and acrid, frequently excoriating the neighbouring parts; towards the end it puts on a purulent appearance: but neither the colour nor conſiſtence of the mucus are uniformly the ſame, being ſubject to change, according to the ſtate of

of the membrane or the degree of the inflammation.

As the inflammation of thoſe membranes is not accompanied with much pain, it does not occaſion any great degree of fever; therefore, when we find a conſiderable degree of fever preſent, we may conclude that the fever is not a ſymptom of the inflammation, though the inflammation in many caſes may with propriety be conſidered as a ſymptom of the fever.

When this inflammation terminates in a favourable manner, the ſymptoms gradually ſubſide, and the diſcharge at firſt diminiſhing, reſembles purulent matter, till acquiring more tenacity and tranſparency, it at laſt has every property of real mucus. In caſes where the termination is leſs favourable, the diſcharge ſometimes excoriates or ulcerates the membrane itſelf; or ſtopping ſuddenly, occaſions phlegmonic inflammation, and abſceſs in the cellular membrane, or in ſome of the neighbouring parts. There are inſtances alſo, though by no means frequent, where inflammations of this kind have terminated in gangrene. But I am convinced

convinced, that wherever ſuch an event has taken place, it has been owing rather to the nature of the cauſe, than to the ſpecies of the diſeaſe.

The three firſt ſpecies of inflammation, are, in the ſtricteſt ſenſe of the word, acute diſeaſes *; their ſymptoms being violent, and their termination ſpeedy: whereas the inflammation of mucous membranes often continues, without much increaſe or decreaſe, for a long time; ſo long indeed, that the diſeaſe becomes a chronic, more properly than an acute one; and in many caſes, even when the principal inflammatory ſymptoms have been removed, a ſpungineſs, redneſs, and increaſed ſenſibility of the membrane remain, with the diſcharge of a thin diſcoloured mucus; and in every inſtance where any of thoſe membranes have been violently inflamed, the part continues long weak, and liable to be again affected from the ſlighteſt cauſe.

Having finiſhed with the ſymptoms, I ſhall next endeavour to inveſtigate the cauſes

* The ſcrophulous, and poſſibly the venereal inflammation of the perioſteum, are exceptions to this rule.

cauſes of the inflammation of mucous membranes; the principal of which are the following:

Catarrh, Contagion, Scrophula, Venereal Virus, Error loci, Mechanical or Chemical Acrimony.

Although phyſicians are perhaps not yet agreed reſpecting the theory of Catarrh, there can be no difference of opinion in regard to the ſymptoms, the moſt remarkable of which is the inflammation of the membrane of the noſe, commonly known by the name of Schneiders membrane. The membrane covering the velum pendulum palati, uvula, and tonſils, is likewiſe often affected in the ſame manner, and from the ſame cauſe; and, if we may judge from the cough, ſenſe of heat, ſoreneſs, &c. of the trachea, the membrane lining that tube, occaſionally undergoes a ſimilar morbid alteration. I think it alſo probable, (for we can have no poſitive evidence of the fact,) that in diarrhœas, from catching cold, the villous or interior coat of the ſtomach and inteſtines is ſometimes ſlightly inflamed. But although the inflammation of thoſe membranes is one and the ſame, the ſymptoms,

toms, depending chiefly on the particular function of the part, are extremely different. Thus, what occaſions ſneezing in one place, excites coughing in another, and purging in a third.

As the hiſtory of phyſic affords many examples of catarrhs, anginas, and dyſenteries, propagated by contagion, it follows, that certain contagions, as well as the common catarrh, occaſion inflammation of the mucous membranes.

The ſcrophula, as we have already ſeen, is apt to affect ſome of the diaphanous membranes; it has alſo a great tendency to affect the mucous membranes. And the eyes, noſe, and upper lip, are frequently inflamed and thickened from this cauſe.

Not only the ſcrophula, but the venereal virus, when introduced into the habit, ſeems to have a propenſity to affect the mucous membranes; and therefore the eyes, eye-lids, noſe, and fauces, are often the theatres of its deſtructive ravages.

To the preceding cauſes may we not add the Error Loci of Boerhaave? I confeſs that this part of his Pathology, when

carried to its full extent, founded as it was on the erroneous ſyſtem of Leeuwenhoeck, has been juſtly exploded; but although we are now certain that there is no decreaſing ſeries of globules in the blood, or of arteries and veins particularly adapted to each; yet, as we are told by ſome very great anatomiſts, that the red particles, or colouring part of the blood, are of a flat or annular ſhape, and probably ſolid; and as we know that they do not, in a natural ſtate of the body, enter many of the capillary veſſels, into which, in a ſtate of inflammation, we ſee them forced; we have only to admit that there are other cauſes, as well as inflammation, which may occaſion this, and the conſequence is obvious: for if forced into veſſels incapable of tranſmitting them, they muſt neceſſarily occaſion diſtention and pain; and diſtention and pain in any part of the arterious ſyſtem neceſſarily induce inflammation. Here then is an inflammation cauſed by a true error loci, and the appearances of the ophthalmia, on many occaſions, ſhew that this actually takes place. Who has not ſeen a blood-ſhot eye, without much pain or inflammation in the beginning,

ginning, ſoon accompanied by both, when the diſtention was not ſpeedily removed by emptying or relaxing the veſſels of the part. And, if we plainly perceive inflammation to follow from the diſtention of the veſſels on the tunica albuginea of the eye, we may fairly conclude that the ſame thing happens in other ſimilar membranes.

On the ſubject of mechanical and chemical acrimony I have little to remark. Every one knows, that duſt or ſand blown into the eyes will cauſe inflammation; and that thoſe chemical acrimonies, which excite inflammation, when applied to the ſkin, will certainly have the ſame effect, when applied to a more ſenſible membrane, or at leaſt to one that is not defended by ſo thick a cuticle.

But if the inflammation of mucous membranes differs from other inflammations in ſymptoms and termination, it differs from them not leſs remarkably in the mode of treatment.

As this inflammation hardly ever occaſions any conſiderable pain or fever, general bleeding is ſeldom neceſſary, partial or local bleeding being in moſt inſtances ſufficient;

whereas purging, which in phlegmonic and eryſipelatous inflammations, excepting in the beginning, is either prejudicial, or at leaſt of equivocal uſe, in this ſpecies of inflammation, is commonly attended with the moſt evident advantage. Opiates alſo are here of ſingular efficacy. But what moſt remarkably diſtinguiſhes the inflammation of mucous membranes from all others, is the benefit ariſing from cold and aſtringent topics; theſe, which in every other ſpecies of inflammation, are hazardous or prejudicial, in this, are frequently employed, and with the very beſt effect.

But as it is not my intention at preſent to examine the peculiar nature of each diſeaſe connected with the inflammation of mucous membranes, which it is abſolutely neceſſary to do before we can pretend to determine the proper local treatment, I ſhall confine the few obſervations I have to make on topics, to the caſe of the ophthalmia alone.

There is no complaint more frequently left to the direction of the illiterate and unſkilful, nor perhaps any in which profeſſional experience and ſagacity are more neceſſary,

neceſſary, than the inflammation of the eye, a part of the body ſo eſſential to our enjoyment of life; a part in itſelf ſo extremely ſenſible, and which, when inflamed, is irritated even by light, and by the fluid of the lachrymal gland. When we conſider the various cauſes of the inflammation of this organ, and the ſtill greater variety in the ages, conſtitutions, and habits of life of thoſe who are liable to it; when we alſo reflect on the number of external applications in daily uſe, many of them ſo oppoſite in their nature and effects; we may eaſily conceive the difficulty of curing inflammations of the eyes, and the great riſk of truſting ſuch oppoſite and powerful remedies in the hands of ignorance and empiriciſm.

For my part, I will freely acknowledge, that altho' I have paid all the attention in my power to diſtinguiſh the different kinds of ophthalmia, and to aſcertain thoſe ſymptoms that point out the uſe of different topics, I have not yet ſuch confidence in the exactneſs of my obſervations as to wiſh to give them to the public, leſt I ſhould miſlead others, while pretending to inſtruct

them. I ſhall therefore only hazard ſome general obſervations on the ſubject.

In the firſt place, aſtringent topics, though often extremely uſeful, appear to me to have been too indiſcriminately employed. They are improper in recent caſes, before evacuations have been made; and they are improper in every caſe where there is great pain and irritation. They are of no ſervice in the venereal, and ſeldom of any in the ſcrophulous ophthalmia; even when they are proper, they are commonly uſed in too concentrated a ſtate. They are more uſeful I believe when more diluted; at leaſt it is adviſable to begin with a weak ſolution, eſpecially of the preparations of lead, as we have it always in our power to increaſe their force when we find it can be done with ſafety and effect.

Where the inflammation of the eyes has been attended with great pain and irritation, I have found a fomentation made of elder flowers, and of white poppy heads, more uſeful than any aſtringent topic; to this I have occaſionally added as the pain and irritation abated, a ſmall quantity of the aqua ammoniæ acetatæ, or of the ſal ammoniacus.

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In other caſes, where the irritation and pain were leſs violent, though ſtill in my opinion too great to have recourſe to aſtringent collyria, I have uſed with advantage a weak ſolution of nitre, or of ſal ammoniac in roſe water, or in the camphorated mixture, which applications I have found moſt ſucceſsful when there was the appearance of a ſcrophulous habit.

Spirituous collyria ſeem to me to be hurtful, when the inflammation is great, but when that is inconſiderable they are often of ſervice, by leſſening the irritability of the eyes or eye-lids.

Ointments or liniments, I believe, are principally uſeful in caſes of lippitude, or where the inflammation is chiefly confined to the palpebræ, and has become chronic. The preparations of mercury are ſometimes of ſervice in this particular caſe.

Of the Inflammation of the Muſcular Fibres.

A fifth ſpecies of inflammation, different in many reſpects from any of the preceding, and whoſe ſpecific difference is owing likewiſe to the peculiar ſtructure of the part,

is the Inflammation of the Muſcular Fibres, commonly called the Acute Rheumatiſm.

From our knowledge of the great ſenſibility and irritability of the muſcular fibres, and of the number of nerves and blood veſſels with which they are ſupplied, we ſhould be apt to conclude a priori, that they muſt occaſionally be the ſeat of pain and of inflammation; and every page of the hiſtory of phyſic confirms this hypotheſis. This inflammation, it is true, is accompanied with no very conſiderable ſwelling of the part, no throbbing or painful pulſation, and no very remarkable ſenſe of heat, but it is characterized by the ſame ſymptoms by which all other internal inflammations are diſtinguiſhed, viz. violent or acute pain, accompanied by fever, and greatly aggravated by motion or diſtention; an inflammatory cruſt alſo appears on the blood that is taken away, and the diſeaſe is ſeldom cured without repeated bleedings and a ſtrict antiphlogiſtic regimen.

But if this inflammation differs from others in its ſymptoms, it differs no leſs remarkably in its termination; never does a rheumatic inflammation, ſo far as I have obſerved,

obſerved, terminate in ſuppuration or gangrene; when it continues long or is not completely cured, it occaſions debility, palſy, and rigidity of the muſcular fibres; or rigidity of the tendons, with an extravaſation of a gelatinous matter about their ſheaths, and about the ligaments of the larger joints, entirely deſtroying the motion of the limbs.

The inflammation of the muſcular fibres differs alſo very materially from other inflammations as to the period of its duration, for though the pain and fever accompanying it be as violent as in any caſe whatever, the complaint is neither ſo acute, nor of ſo ſpeedy a ſolution, as the three firſt ſpecies of inflammation, but, like that of mucous membranes, is apt to degenerate into a chronic diſeaſe, the pains and ſwellings remaining after the fever and primary inflammation have entirely ſubſided. So great, indeed, is the ſenſibility and irritability of muſcular fibres, that they are frequently affected by ſpaſm or pain when there is no ſuſpicion of inflammation, and from cauſes which are known to have an oppoſite tendency.

As

As to the cauſes of muſcular inflammation, they are in general extremely uncertain; ſometimes, however, they are more obvious; cold and moiſture, for inſtance, applied to the body, in particular circumſtances, ſeldom fail to produce it. Mercury, imprudently adminiſtered, is alſo a pretty frequent cauſe of acute rheumatiſm, and it is probable that other acrimonies or poiſons introduced into the habit have a ſimilar effect: the poiſon of lead, we know, as well as mercury, cauſes the moſt cruel muſcular pains, though ſeldom attended with inflammation or fever.

But to proceed to the cure.

The illuſtrious Sydenham, whoſe name never can be mentioned in this country but with reverence, in the beginning of his practice, truſted entirely to the lancet for the cure of the acute rheumatiſm, as well as of the pleuriſy; thinking that the cauſe of both was to be evacuated through the wound at the arm. But he was wiſe enough to rectify this miſtake by his after experience, confeſſing that ſo great a loſs of blood

blood as was neceſſary to cure the diſeaſe, produced conſequences which were not eaſily remedied. He muſt alſo have obſerved, when the cure of the diſeaſe was attempted by bleeding alone, that in ſome caſes, the ſtrength of the patient was not equal to the remedy; whilſt in others, the diſeaſe was only partially removed, the pains remaining after the fever was gone, and an acute malady changed into a chronic one of very tedious and doubtful ſolution.

Influenced by theſe conſiderations, ſome phyſicians have endeavoured to obviate the inconveniences of Sydenham's practice, by ſubſtituting topical for general bleeding. This alteration has ſome advantages; and has alſo ſome diſadvantages: it certainly does not impair the ſtrength ſo much as general bleeding; on the other hand, where bleeding is abſolutely neceſſary, the relief afforded by this is comparatively trifling, and the parts of the body affected are commonly expoſed to the cold air. But the greateſt objection to both is, that, when no other remedy has been employed, they in moſt caſes only palliate the ſymptoms, without removing the cauſe: this in general

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can only be done by promoting a diaphoreſis, which, therefore, deſerves to be ranked amongſt the principal means of curing rheumatic inflammation. But though the great efficacy of ſweating in the cure of this diſeaſe is well known, the practice has at times been productive of the moſt baneful effects.

As for thoſe perſons who, without diſcriminating between the acute and chronic rheumatiſm, attempt to cure the former by ſweating, without previous bleeding, or any other evacuation, and who, with this intention, employ eſſential oils or medicines which are apt to increaſe both the inflammation and fever, they act with equal wiſdom as if they endeavoured to extinguiſh fire by pouring oil or ardent ſpirits on it.

Another practice equally common, and not leſs pernicious, is the encouraging profuſe ſweating, to which the ſick are already too much diſpoſed, when it has not the ſmalleſt effect in leſſening the frequency of the pulſe, or in relieving the pains: to promote ſweating under ſuch circumſtances, is only to hurry the patient to his grave, or to leave him ever after a miſerable victim to pains and lameneſs. But though ſweating,

like

like every other remedy, is liable to abuſe; this does not at all leſſen our opinion of its efficacy when judiciouſly employed.

Another evacuation, the utility of which I have frequently experienced in removing rheumatic inflammation, is purging: although this likewiſe requires to be conducted with prudence and caution; the milder purgatives or laxatives only ſhould be employed, and repeated at proper intervals, ſo as not to exhauſt the ſtrength of the patient: towards the end of the diſeaſe calomel is ſometimes uſefully combined with theſe. Whether neutral ſalts are in this caſe of any ſervice, independently of their effect in promoting the different evacuations, I cannot pretend to decide: but think it not improbable that they are uſeful in other reſpects.

I ſay nothing here of the means of palliating the muſcular pains, nor of the difficulty of breathing, palpitation of the heart, &c. which ſometimes occur in this diſeaſe. As it was not my intention to treat of the rheumatic fever, but to point out the peculiarities of the rheumatic inflammation.

Having

Having now finiſhed the deſcription of thoſe five ſpecies of inflammation, whoſe ſpecific diſtinction depends upon the natural texture of the part, there only remains for me to take notice of thoſe diſtinctions that are owing to a morbid texture; a circumſtance alſo very neceſſary to be attended to, in explaining the various forms of this diſeaſe.

If I have ſucceeded in proving that the different forms of inflammation depend principally upon the ſtructure or texture of the part inflamed, it follows as a corollary to this propoſition, that the form or ſpecies of inflammation, ſo far as it is connected with texture, will be equally diverſified by a difference in this particular, whether natural or adventitious. But although this concluſion muſt be admitted, it is difficult to bring illuſtrations of the fact that are not liable to ſome ambiguity; thoſe that appear to me the leaſt exceptionable, are the *ſcirrhus*, the *ſtruma*, the *carbuncle*, and the *tubercle of the lungs*.

I know it may be ſaid, and ſaid with ſome degree of probability, that, in the three firſt, the nature of the inflammation, and

the manner in which it uſually terminates, is more owing to the habit of body of the patient, than to the nature of the obſtruction. I allow, that the habit of body determines, in many caſes, the nature of the obſtruction, but think it not improbable, that the obſtruction once formed may have conſiderable influence in determining the ſpecies of inflammation that follows.

But this, and every other opinion contained in the preceding pages, I ſubmit with great deference to the Society, and to the public judgment, adopting upon this occaſion the language, as I have long done the ſentiments of Cicero. " Nos qui ſequimur probabilia nec ultra quam id quod veriſimile occurrerit, progredi poſſumus, et refellere ſine pertinacia, et refelli ſine iracundia parati ſumus *."

* Tuſcul. Queſt. Lib. i.

XX. *A Caſe of Inverſion of the Uterus; By* ROBERT CLEGHORN, M.D. *Profeſſor of Materia Medica in the Univerſity of Glaſgow. Communicated by Dr.* GARTHSHORE. *Read January* 22, 1788.

THE ſubject of this caſe is a well made woman, aged twenty-nine years, who four years ago was delivered of her firſt child.

In the year 1786 ſhe became again pregnant. During the whole time of this ſecond pregnancy, ſhe complained frequently of pain in the ſmall of her back, and of a ſenſe of weight in the lower part of the abdomen.

On the 9th of February, 1787, ſhe was ſeized with the pains of labour, and by her own particular deſire was delivered in an erect poſture; her knees reſting on a pillow on the floor, while her arms were ſupported round the neck of a woman who ſtood oppoſite to her. As ſhe was rather languid, the pains were for ſome time lingering, but at laſt the child came forth ſo

ſpeedily,

ſpeedily, that the midwife thinks the delivery of the head was compleated during a ſingle pain. The patient ſays, that after this her ſtrength failed, and the pain went off; and that the reſt of the child was delivered by the midwife. About two minutes afterwards, the patient ſtill remaining in the upright poſture, the placenta came away without any force on the part of the midwife. The patient, who was then faint, and nearly inſenſible, felt no pain during its ſeparation. She was quickly put to bed; a profuſion of pure blood flowed from the uterus; the pains, ſo far from being alleviated by the delivery, grew every moment more intenſe; thoſe of the back in particular were ſo excruciating, and the throes which the women call *bearing pains* ſo violent, that the patient, worn out with fatigue and ſuffering, became alternately inſenſible and delirious.

On the ſecond day after delivery, as the patient had made no water, the midwife tried to introduce a catheter, but in vain. She now for the firſt time diſcovered a tumor equalling in ſize the head of a child, and filling very completely the whole of

the vagina. Being ignorant of its nature, ſhe made the patient reſt on her knees and elbows, in which poſture having examined it, ſhe attempted to take hold of it, but finding it fixed ſoon deſiſted, being alarmed by the ſhrieks of the patient, who requeſted ſhe might be left to her fate, as death appeared leſs formidable than the torture to which this examination ſubjected her.

That night, at a late hour, application was made to Mr. Watſon, an intelligent ſurgeon of this place, who having heard the caſe imperfectly ſtated, preſcribed a mixture, with laudanum, to be given occaſionally till the pain ſhould abate.

The next day, being the third after delivery, he ſaw her for the firſt time. She was then delirious; the pain, tho' ſomewhat leſſened by the opiate, was ſtill very conſiderable, and her belly was much ſwelled. The catheter, after many efforts, having been introduced, two quarts of urine were drawn off. This evacuation relieved her conſiderably, for which reaſon, as the patient was extremely weak and irritable, Mr. Watſon judged it improper to examine the tumor

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at that time. Next day however he examined it carefully. It appeared firm, round, about the ſize of a child's head, occupying the whole cavity of the vagina, and containing near its centre a kind of groove, into which he could thruſt the point of his finger. Its bulk and preſſure now prevented the introduction of a catheter, though both a ſtrait and crooked one were tried, but the urine was drawn off by means of a bougie.

Mr. Watſon was accompanied at this viſit by Mr. Hamilton, Profeſſor of Anatomy and Midwifery in this Univerſity. They found her extremely weak and exhauſted, by the long continued pains and great diſcharge of blood. Her pulſe was feeble, and about 120; her tongue parched; her ſkin hot and dry. The external labia were at this period inflamed, ſwelled, and extremely painful. The ſurface of the tumor was ſtill more tender, ſo that it was impoſſible to examine it accurately, or indeed at all. Suſpecting the poſſibility of an inverſion, the certainty of which could not be determined, they agreed to continue to draw off the urine

regularly; to keep the belly open by injections; to repeat the opiate occaſionally; and, by ſedative applications, to moderate the inflammation of the external parts. This mode of treatment procured ſome relief; the patient, however, ſtill ſuffered conſiderable pain, and was withal ſo languid that ſhe abandoned herſelf to deſpair, or rather looked forward to death as her only refuge.

Fourteen days after delivery, while ſhe was at ſtool, the tumor which had hitherto remained within the vagina, was forced down with pains far more violent than thoſe which had accompanied the birth of the child, and appeared conſiderably without the os externum. In this ſituation we had an opportunity of examining it accurately. Its bulk was conſiderably diminiſhed, but it ſtill exceeded, by about one half, the fiſt of an ordinary man. Its figure was round, or rather elliptical; its loweſt point reached three or four inches below the lips of the os externum; and it dragged down the inverted vagina ſo far, that the finger could not be thruſt up in any part of its circumference. Its ſubſtance

was

was ſolid and hard; its ſurface dry, ſhriveled, and white, owing, I ſuppoſe, partly to the external air, but chiefly to a ſaturnine application. For, ſoon after it had appeared externally, a cold poultice with ſugar of lead had been applied to it; but after two weeks this application either produced, or ſeemed to produce intolerable ſickneſs. Inſtead of it, therefore, bits of cloth dipped in *Aqua Vegeto-mineralis*, were applied from time to time, after which the ſickneſs abated.

It had been very early ſuſpected that this tumour might be the uterus inverted, and the ſuſpicion was now confirmed. We determined, therefore, to perſevere in the method of cure already adopted, and had the ſatisfaction of ſeeing our exertions prove ſucceſsful. The pain and ſwelling abated by degrees, till at length the tumour was returned within the vagina by Mr. Watſon; and the patient, having regained ſome degree of ſtrength, was enabled to ſuckle her infant.

I examined her this day, Oct. 30, 1787, and found her in good health. The tumour was felt in the vagina about two inches from

the os externum, and a ſlight preſſure on the poſterior part of it produced conſiderable pain. Its ſurface is now moiſt and ſmooth. When ſhe ſtoops to lift any thing, or to waſh clothes, (and her ſituation in life obliges her to do both) or when ſhe ſtrains much at ſtool, it is apt to deſcend below the os externum. In this ſituation it produces acute pain, and generally diſcharges a quantity of blood; but the bleeding ceaſes after ſhe has replaced it with her fingers. Even when the tumour does not fall down, ſhe has frequently a ſenſation extremely diſagreeable, though hardly entitled to the name of pain: ſhe complains that her womb or ſome part of her bowels is preſſing downwards with conſiderable violence.

For ſome time ſhe tried to ſupport the tumour by a T bandage; which, however, ſhe has not uſed of late.

To the preceding hiſtory I ſhall add a few remarks, ſuggeſted by comparing it with ſimilar caſes recorded by the different writers whoſe works I have had an opportunity of conſulting.

Some, conſidering the ſituation of the uterus reſting on the bladder before, and on the rectum behind, and retained in its place, not only by its external coat and its veſſels, but alſo by its ligaments, ſeem to think, that it can hardly, on any occaſion, either prolapſe, or be inverted. An excreſcence ſometimes from the womb, but more frequently from the vagina, has, in the opinion of theſe authors, been repeatedly miſtaken for the womb itſelf *.

Others, going to the oppoſite extreme, ſpeak of the prolapſus and inverſion of the uterus as ordinary and trifling occurrences, which, far from deſtroying life, ſeem hardly to impair health. Examples are gravely related, in which the uterus was completely deſtroyed by ſuppuration, or cut out by the hand of a ſurgeon, without any very bad conſe-

* Vid. Boneti Sepulchret. Lib. iii. Sect. xxxi. Obſerv. vi.

conſequence. In one caſe * it is ſaid to have been extracted piece-meal during two days, without pain, after which the patient recovered, and enjoyed good health for three months, when ſhe was carried off by a pleuriſy. The body being opened, no uterus could be found, but its place was ſupplied by a certain callous body, "quod natura, "quæ nunquam in nobis otiatur, jacturam "ejus partis, vel lacunam potius alvi re-"pletura, ſubſtituerat."

A ſimilar caſe is recorded in the Memoirs of the Academy of Sciences at Paris on the authority of M. Vacher a man of conſiderable reputation. He ſays, that a patient of his loſt her whole uterus without ſuffering any material injury. No detail of circumſtances is given by the Academician who mentions the caſe, but he thinks M. Vacher had miſtaken ſome other part for the uterus; and he ſupports his opinion by very ſatisfactory arguments †.

To enter into a minute examination of all the incredible hiſtories relative to this ſubject,

* Vid. Bonet. ibid.

† Hiſtoire de l'Acad. Roy. des Sciences. Année 1741, p. 101.

ject, would be tedious and uſeleſs. Many of them are written in uncouth Latin, ſo obſcure on ſome occaſions, and ſo vague on others, that it is difficult to underſtand the author's meaning with preciſion. A polypus, it might eaſily be ſhown, has frequently been miſtaken for the uterus, and perhaps the callous body, mentioned above in the quotation from Bonetus, was nothing but the womb itſelf disfigured by ſuppuration, or by ſchirrus. In contradiction to all ſuch caſes as thoſe mentioned above, I imagine it will be generally admitted, that the uterus has ſeldom been much injured, and has never once been completely deſtroyed without a fatal event. This opinion might be confirmed both by conſidering the nature of the uterus, and by a number of well-marked inſtances, from among which I ſhall ſelect the following.

The late Dr. Hunter uſed to mention, in his lectures, a caſe that occurred to himſelf, and it is perfectly in point. A patient diſtreſſed with a polypus, hanging from her womb, applied to him for relief. In extirpating tumours of that kind, every one knows that this celebrated Anatomiſt had uncommon

mon ſucceſs. He began, as uſual, by attempting to fix a ligature round the neck of the tumour, aſking the patient, from time to time, if ſhe felt any pain. Unluckily, he had informed her beforehand, that if the ligature pained her, it muſt be inſtantly removed; and ſhe was ſo extremely eager to get rid of the tumour, that ſhe reſolved at all hazards to conceal her ſufferings. At laſt, however, they grew inſupportable. Then ſhe confeſſed the truth, but too late. Her pains became more ſevere than thoſe of labour, and ſhe expired.

On opening the body, Dr. Hunter found, that the weight of the polypus had inverted the uterus partially, ſo that part of its ſubſtance had been included in the ligature.

Thomas Bartholinus * relates, that a woman of rank, the mother of five children, was delivered after an eaſy labour of her ſixth child. In attempting to looſen and extract the placenta, the midwife brought out along with it ſomething as large as the head of a child. She knew not what it was, but the women who were preſent aſſured her it was a preternatural growth, which they

* Cent. 2. Hiſtoria 91.

they encouraged her to drag away. She began to pull, and perſiſted with great force till her ill-fated patient expired. While ſhe lay at the point of death a phyſician examined her, and found her uterus completely inverted, pierced on both ſides by the fingers of the midwife.

Ruyſch * mentions a caſe ſomewhat ſimilar. A woman after childbirth had her uterus completely inverted. A quack having been called, he reſolved to examine, with the lancet, a tumour of which he did not know the nature. He made a ſlight puncture only (cultelli cuſpide leviter tumorem tetigit) but ſo great a quantity of blood flowed from the wound, in ſpite of every application, that the woman periſhed.

Henricus ab Heers † ſays, he ſaw the conſequence of an operation ſtill more horrible. A mountebank undertook to cut off a tumour about the ſize of a gooſe's egg, from the cavity of the vagina. Henricus thinking the tumour might be the uterus, propoſed a different method of cure, but being overpowered by the impudence and oppro-

* Obſerv. Anatom. xxvi.

† Obſerv. Medic. xxii. p. 192.

opprobrious language of his daring opponent, whom he admoniſhed in vain, he reſolved to leave the room. He had not gone far when he was recalled by the ſhrieks of the bye-ſtanders, and by the groans of the patient, who quickly died in convulſions. The excrements iſſued from the orifice, becauſe together with the uterus, the colon had alſo been cut.

To theſe caſes, others equally authentic might be added, but theſe are ſufficient to illuſtrate the danger of wounding the uterus, and to ſhow the pernicious tendency of a maxim which ſome have been hardy enough to deliver. Having attempted to prove, that the uterus has in general no ſhare in forming the tumours aſcribed to it, one author, in all the pomp of rhetoric, addreſſes himſelf thus to the ſurgeon: "Quod "ſi occaſione data, prolapſum ejuſmodi "uterum tollere concedatur, intrepido id "perficere animo allabores quæſo, ſic enim "ægrotanti ſalus, antiquitati errorum cor- "rectio, recentioribus, veritatis indagatio "adferetur *." Such a mode of ſpeaking can

* Jobus a Meek'ren in Obſerv. Anatom. Med.

can never be too much reprobated, even though it ſhould be ſuppoſed to allude to a polypus only.

There is reaſon to believe that the uterus has been inverted after child-birth more frequently than ſome authors ſeem to be aware of. Every practitioner muſt remember caſes ſtated by midwives, where, after an eaſy delivery, the patient has been ſpeedily cut off by a monſtrous growth appearing in the vagina. Frequently theſe growths have not been accurately examined, but where an examination has taken place, they have been found to ariſe from the uterus inverted. Almoſt all writers on midwifery mention ſuch caſes. Ruyſch was called to two in one week*, and he ſpeaks as if ſimilar calls had not been unfrequent. In this place, where midwifery is accurately taught, and cautiouſly practiſed, three inſtances are known to have happened lately, in two of which the inverſion was complete. Such an accident, in a great majority of inſtances,

* Obſervatio Anatom. x. where he gives an excellent drawing of the appearance exhibited by the inverted uterus.

inſtances, produces floodings, convulſions, and faintings, which terminate in death. Of the very few who have ſurvived an inverſion of the uterus, the greater number have had it ſpeedily re-placed, but the ſingularity in the caſe of our patient is, that ſhe ſtill lives, though her womb continues inverted. For ſome time, I imagined this to have been a ſolitary caſe; however, I find La Motte mentions two women, who lived many years with their wombs inverted. The ſtatement of both caſes is obſcure and ambiguous in ſeveral reſpects, as will appear to any reader who will carefully peruſe the paſſages containing them *. Perhaps in other authors, whom I have no opportunity of conſulting, there may be ſimilar caſes, but this is of little conſequence, the chief object being to aſcertain how the caſe is to be treated, not to enquire how often it has happened.

As the beſt, in truth almoſt the only time for relieving the patient, is ſoon after the

* Traité des Accouch. Livre v. Obſerv. 425, 426. together with the whole of the xth and xith chapters. Leyden Edition, 1729.

the inverſion has taken place, it is of the greateſt importance to detect the accident early. When the uterus accompanies the placenta altogether without the external opening, the caſe is obvious: but this does not always happen. Sometimes the inverſion is ſo partial, that no part of the inverted uterus deſcends below it's mouth; at other times, it deſcends below the mouth of the womb, but ſtill continues concealed from the eye, in the ſuperior part of the vagina. Mean time the patient is put to bed, and the nature of her complaint is frequently not been diſcovered, till the ſeaſon for relieving it is paſt.

It may be difficult to ſpecify any ſymptoms that can, in every caſe, lead to a certain diſcovery of inverſion, before the inverted part ſhall deſcend within reach of the finger. The poſture of the patient during labour; the celerity with which the child has come forth; the facility with which the placenta has been brought away; it's appearance afterwards; all theſe things muſt be kept in view; but the two following circumſtances ſeem to claim peculiar attention: viz.

1ſt. The quantity of blood diſcharged. Whenever that is uncommonly copious, eſpecially when the ſtrength ſinks ſpeedily, the patient ought to be examined moſt carefully without loſing a moment.

2dly. The nature and degree of the pains which remain after delivery. Fatigue, diſtenſion of parts, and other obvious cauſes always do, and always muſt leave a ſenſation of ſoreneſs after the pains of labour. This ſenſation, however, which often gives way to a gentle ſleep, is not only inferior in degree, but is different in kind from the horrible pangs which accompany the inverted uterus. The back, the loins, the fore part of the belly and the thighs, are all exquiſitely painful, while the uterus is thrown into convulſive contraction, ſo that the patient imagines ſhe is about to bear a ſecond child, or to loſe ſome part of her bowels. Her ſtrength ſinks apace; the extremities grow cold; a clammy ſweat bedews the forehead and breaſt; the pulſe ſtops; exceſs of fatigue procures no reſt; the patient falls into a ſyncope, from which ſhe is never rouſed,

roused, or roused only by convulsions and delirium.

If, therefore, after the delivery of the placenta, violent expulsive pains, equalling or exceeding in severity those which attended birth, shall attack the patient, she ought to be examined instantly. Such an examination, unless the operator be deficient in skill or tenderness, can do no harm, and it may save life. That it is so frequently neglected in the beginning of such melancholy cases, is unpardonable: for, when the bottom of the uterus at first falls through the os uteri, it can be for the most part easily replaced, if no spasm has come on. The philosophical and elegant anatomist whom I formerly quoted, has left us a pointed example of this kind *. Having found the womb completely inverted, hanging down between the thighs of the patient, he reduced it, and the patient being laid in bed, with her thighs close together, she recovered perfectly. Another case which he mentions in the same page, terminated fa-

 tally.

* Ruysch, Decas Secund. p. 37. & seq.

tally. In this, the womb was ſo hard, and ſo much ſwelled, that it would not yield to the preſſure applied. Ruyſch adds, that this fatal hardneſs and ſwelling come upon the womb very quickly, and render the reduction impracticable. In one caſe, however, the ingenious Mr. White, of Mancheſter, ſeems to have ſurmounted theſe obſtacles, merely by graſping in his hand, for ſome time, the body of the inverted uterus. Though immoveable at firſt, and though the firſt preſſure occaſioned great pain, graſping it with the whole hand, produced no dangerous effect; on the contrary, it's ſize diminiſhed gradually, till it was fully reduced, after having been inverted above an hour, and the patient recovered as quickly as could be expected *. The caſe is moſt diſtinctly ſtated, and accompanied with ſeveral excellent remarks. How far a ſimilar treatment may ſucceed hereafter, future experience muſt determine.

Reduction of the womb, though the moſt probable method of ſaving the patient, will

* White's Treatiſe on the Management of pregnant and lying-in Women. Second Edition, p. 430—6.

will not always be ſucceſsful, even when it is performed ſpeedily and completely. This aſſertion will ſurprize no one who underſtands the nature of the part affected.

The womb is at all times extremely irritable. Its internal ſurface, unaccuſtomed to the external air, is deſtined to receive from without no ſtimulus but one. During pregnancy its ſubſtance is thickened and its veſſels enlarged; by the pangs of labour it is thrown into convulſive contractions, which increaſe the irritability of its fibres; and blood iſſues copiouſly from numerous points with which the placenta has been connected. This ſurface inflamed, irritable, and bleeding, ſuddenly expoſed to the air, in a ſituation adverſe to all its functions, may, and frequently does produce a train of deadly ſymptoms, which continue after the cauſe that originally excited them is removed, that is, after the womb which had been inverted is reſtored to its natural ſituation.*

* On ſome occaſions the placenta has been completely ſeparated before inverſion, on others it has adhered to the inverted

In order to avoid an accident which it is ſo difficult to remedy, the cauſes moſt likely to produce it ought to be conſidered with the greateſt care. No doubt the uterus has been frequently inverted by the ignorance and temerity of the midwife, but it has ſometimes happened under the moſt ſkilful management. Ruyſch, whom no one will ſuſpect of incapacity or raſhneſs, ſays, that on one occaſion, having extracted a dead fœtus, and brought away the placenta, he obſerved the womb deſcending ſoon after, *(mox ſubſequentem)* but he replaced it in the manner formerly mentioned, and no bad conſequence followed. This inverſion Ruyſch attributes to the exertions which the womb continues to make after delivery,* though it is poſſible that a partial inverſion might have taken

inverted part. In this caſe, ought the placenta to be ſeparated before reduction is attempted? If it is not ſeparated, the part to be reduced will be more bulky, conſequently more difficult to reduce; if it is, a great quantity of blood will be diſcharged from the veſſels of the womb, and the irritation will be much increaſed. In general it will be ſafeſt to attempt reduction before we ſeparate the placenta.

* Obſ. Anatom. XI.

taken place before the complete ſeparation of the placenta. From this caſe, however, as well as from many others, it is ſufficiently evident that the womb may be inverted, in caſes where no improper violence is applied to the umbilical cord.

Two circumſtances ſeem to render the uterus peculiarly liable to this accident, firſt, the attachment of the placenta exactly to the bottom of it; ſecondly, the haſty delivery of the child.

Over the firſt cauſe we have no direct power. Where the placenta is thus attached exactly to the fundus uteri, its weight alone may produce a partial inverſion, if the woman be in an upright poſture, and if from any accident, the uterus ſhould not contract itſelf ſpeedily after birth. When any portion, however ſmall, is thus inverted, the womb is ſtimulated to contraction; pains ſimilar to thoſe which accompany the expulſion of a child, come on; and the uterus is completely inverted.

Along with this unfavourable attachment of the placenta, authors generally mention the inſertion of the cord exactly into its

centre. Such an inſertion, if it ever happened, is luckily, extremely rare; for no circumſtance could be more dangerous. Were the placenta frequently placed in the centre of the uterus, and were the cord inſerted exactly into the centre of the placenta, a very ſlight pull before the ſeparation of the placenta, would be ſufficient to produce inverſion.

The ſecond circumſtance, viz. the celerity with which the child is delivered, is more under the management of the accoucheur. In animals aſſiſted by nature alone, we often ſee the fœtus continue for ſome time in the vagina after one portion has been delivered, till a new pain coming on, forces out the whole. The ſame thing happens to women who are delivered without aſſiſtance, in an horizontal poſture. Too frequently, however, the aſſiſtant interferes, and laying hold of the head, as ſoon as it comes within reach, labours to complete the delivery ſpeedily. Now this practice has various inconveniences; in particular, it expoſes the uterus to the danger of inverſion, becauſe, being emptied too

too ſuddenly, the womb is leſs apt to contract itſelf.* It appears probable that our patient ſuffered in this manner. The erect poſture in which ſhe continued from the beginning to the end of her labour, favoured the quick delivery of the child, and the aſſiſtance given by the midwife, contributed to produce the ſame effect. What was the conſequence? The placenta ſeems to have fallen down without any pain, and by its deſcent the womb ſeems to have been inverted. If the delivery of the child had been a little retarded, by laying the woman in an horizontal poſture, by declining to pull when the head appeared, or even, if neceſſary, by applying a gentle reſiſtance to the head of the child,† there is reaſon to think the accident might have been avoided. The infant could not have been injured by the delay, and the portion of it which remained in contact with the irritable parts about the neck of the womb, would certainly have ſtimulated it to contract for the purpoſe

* Vide Mr. White's Treatiſe, p. 107 and 365, where the danger of delivering too haſtily is fully pointed out.

† Ibid.

purpoſe of expelling the irritating cauſe. A gradual contraction of this kind facilitates the ſeparation of the placenta, for every one knows, that its connexion with the womb is weakened in proportion to the contraction of the uterine fibres.

If Mr. Watſon or Mr. Hamilton had ſeen the patient ſoon after the uterus was inverted, they might probably have been able to accompliſh a reduction, but at the time of their ſeeing her, the attempt could not be made, with any proſpect of ſucceſs, or indeed with ſafety. There now remains no hope of being able to replace the womb; the patient, therefore, though ſhe may continue to live, is loſt to ſociety as a mother. Her conſtitution too is conſiderably injured, and the pain occaſioned by any vigorous exertion, renders her, in ſome meaſure, unable to aſſiſt her family. She does not know her ſituation preciſely, but ſhe is ſure ſomething is wrong within her, for which ſhe expects no remedy.

Glaſgow,
November 27, 1787.

XXI.

XXI. *The Hiſtory of a Contraction of the Fore-arm and Fingers, with ſome Remarks and Reflections on Bleeding in the Arm.* *By* Mr. HENRY WATSON, F. R. S. *Senior Surgeon of the Weſtminſter Hoſpital.* *Read February*, 19, 1788.

THE following caſe, having been attended with many curious circumſtances, may perhaps appear intereſting to the Society, as pointing out a mode of ſaving a limb, that might otherwiſe be condemned as incurable.

On the 26th of December, 1752, when I was ſurgeon to the Middleſex Hoſpital, Suſannah Bavin, aged twenty-ſix years, a tall woman, of a pale complexion, though rather ſtrong and muſcular, applied for admiſſion. From her own account it appeared, that ſhe had been blooded in the cephalic-median vein of the right arm, for a pain in her left ſide; that the vein not bleeding freely, the arm had been preſſed, and ſqueezed, in order to get out as much blood as poſſible; that three or four days after,

after, a ſwelling of the whole limb had taken place, from the elbow to the fingers ends, attended with tenſion and deep ſeated pain; but the ſwelling now did not extend beyond the elbow, although the pain reached higher up, even to the biceps muſcle. The orifice in the vein remained open, but there was no diſcharge from it.

Before ſhe came into the hoſpital her arm had been fomented; the orifice had been dreſſed with a little ointment at the pariſh work-houſe; and ſeveral gentlemen of the profeſſion had given her advice; from which, however, ſhe had not received any material benefit.

Upon my firſt viſit to her at the hoſpital, I found the arm œdematous, from conſiderably above the elbow to the tips of the fingers, with a redneſs on the ſkin the whole way, the deeper ſeated parts being very tender to the touch. Her hand was clenched as cloſe as poſſible; her elbow was bent at a right angle with the upper arm; and ſhe complained of violent pain in all the finger joints, and about the inſertion of the tendon of the biceps muſcle.

The

The elbow joint, with the whole hand, being thus ſtrongly contracted, ſhe could neither open her fingers, nor extend her arm, or even make an effort to do it; for the leaſt motion was ſcarce bearable: ſo that in this ſtate the limb was quite uſeleſs.

After ſhe had been about a week in the houſe, ſhe was ſuddenly ſeized one morning, with a throbbing pain under her right breaſt; ſuch as commonly precedes the formation of matter, though without any apparent change in the ſkin. The continuance of this pain induced me to open the part freely with a lancet. Nothing indeed was diſcharged but a little blood and ſerum; yet was ſhe, the ſame day, entirely freed from pain. It was therefore to be hoped, that a free diſcharge from this wound, might produce ſome conſiderable alteration in the contracted limb; but none followed.

The wound had been kept open a long time, and was now filling up, with very healthy granulations, ſo that it was ſuffered to heal. But the cicatrix was no ſooner formed,

formed, than the pain returned with more violence; and the whole breaſt ſwelled conſiderably. A warm plaiſter was applied without any benefit. The mercurial ointment rubbed upon the part, diſperſed the ſwelling without removing the pain, which continued a full fortnight longer, but at length gave way to a volatile mixture taken internally; nor did it return to this part ever after. She had now been ſix weeks in the hoſpital, and during this period, the arm and hand had been every day fomented, embrocated, and poulticed; and the applications for theſe purpoſes had been frequently varied, but all without effect. She had likewiſe been blooded in the neck, and once in the ſound arm; had been purged at times; had taken anodynes every night; with various other medicines, which need not be ſpecified, as they afforded no other advantage, than that of removing the œdematous ſwelling, and redneſs of the ſkin; thereby, indeed, reſtoring the limb to its natural ſize and complexion. The tightneſs extending from the biceps muſcle, more than half way down the limb, had

not

not given way in the leaſt; the ſituation of the fore-arm and hand remained juſt the ſame.

After the uſe of ſo many relaxing applications, we were adviſed to try, if by force, we could ſtraighten the arm. This was to be done with caution; and we ſoon found that no moderate exertion could make any impreſſion on the elbow joint. As to the fingers, we endeavoured to paſs down between them, a ſmooth round piece of wood, not larger than a quill, in order to dilate them gradually: but the pain from this attempt was ſo acute, that it threatened convulſions, and we were obliged to deſiſt immediately.

Convinced how imprudent it would be to perſiſt by force in our attempts, either to open the fingers, or ſtraighten the arm, it was now difficult to determine what farther could or ought to be done.

The arm had been well, and perfectly free in all its motions, before the blood-letting. This conſideration led me to a more deliberate examination of the whole limb; and as I perceived, though obſcurely, ſome-

ſomething like a deep ſeated fluctuation a little above the elbow, I determined to make an opening in that part.

Accordingly, on the 12th of March, ſeveral gentlemen being preſent, I made a free inciſion above the elbow joint, between the *Brachiæus internus* and the origin of the *ſupinator radii longus* muſcles, being the preciſe part in which I thought I had felt the fluctuation; but not the leaſt drop of matter was diſcharged. The ſeeming fluctuation had probably been occaſioned by the tenſion of the faſcia; for by cutting through this tendinous expanſion, ſhe was greatly relieved. All her fingers were releaſed immediately; ſhe could now open and ſhut her hand, and had the power of uſing it freely; but the elbow joint remained in the ſame ſtate as before the operation. The next day ſhe continued eaſy, and the wound was dreſſed with a view to keep it open; but with all our endeavours it leſſened gradually, and in three weeks was perfectly healed. Immediately upon this, the fingers drew up, and were ſoon as much contracted as ever.

Recourſe

Recourſe was again had to a variety of emollients in different forms, but with no good ſucceſs; as might indeed have been expected, from our former experience of their inefficacy. The pain returned at times, and was ſo violent, as to threaten convulſions.

The advantages gained, though of but ſhort duration, led me to think that a larger wound might afford a greater and more laſting relief; and as I found the ſame kind of obſcure undulation as before, juſt below the external condyle of the humerus, I determined to make another opening there.

It was again in the preſence of many reſpectable practitioners, and before ſeveral of the pupils, who were all witneſſes to my proceedings, that I made a ſecond wound, much deeper and larger than the former; for it was extended above three inches in length, through the body of the ſupinator longus muſcle. Not only the fingers, but the elbow joint inſtantly became free. She was immediately releaſed from pain and tightneſs; and could now almoſt ſtraighten her arm, and turn it any way.

The wound was dreſſed with lint and digeſtive ointment; a piece of cloth was pinned looſely over the dreſſing, but no roller was applied at this time.

Some days after, the dreſſings were changed for more ſtimulating ones. The precipitate powder, and the cauſtic ſtone, were occaſionally applied, to preſerve the wound open; and to keep up a free diſcharge as long as might be convenient. The arm was now rolled on a ſtiff paſteboard, to keep it extended; and ſhe was directed to hold a weight frequently in her hand, to counteract the flexors of the fingers.

Notwithſtanding all this precaution, the arm, after a time, began to get a little tight about the inſertion of the biceps tendon. At length the wound being nearly healed, ſhe was diſcharged the houſe, but continued on the books as an out-patient. At this time only a little ſtiffneſs remained at the bend of the arm. She was deſired to embrocate it with neats-foot oil, and to uſe the limb as freely as ſhe could.

Three

Three weeks ſhe continued at her own home. In the firſt week the wound was perfectly healed, and the arm began to draw up, with great pain in the biceps tendon. In the ſecond week the fingers drew up, the contraction beginning at the elbow, and proceeding downwards, with great pain in all the joints; the hand being ſo ſtrongly clenched, that the fingers could not be opened by any common force; ſo that in the third week ſhe was in quite as bad a ſtate as ever.

It was in the fourth week that ſhe returned to the hoſpital, with a reſolution to have the limb amputated; but as I would not conſent to the taking off her arm as yet, ſhe ſaid ſhe would willingly ſubmit to any thing elſe I might think proper to do.

Conſidering what benefit had been gained from the ſecond operation, amounting, in appearance, to an almoſt perfect cure, it was the opinion of ſome gentlemen, to whoſe judgment I was willing to ſubmit, that another ſtill larger and deeper inciſion, made in the very ſame part, might at laſt ſucceed effectually. I agreed to the pro-

poſal, though in my own mind, doubtful of the event: for having ſeriouſly reflected on the advantages gained, and the advantages loſt, I could not help drawing a concluſion, that if permanent relief were to be obtained, it muſt be from a wound made in ſome other part of the limb.

However, in the preſence of the late Dr. Hunter, and in a large aſſembly of the faculty, I performed a third operation, agreeably to all their requeſts. I began my inciſion cloſe upon the edge of the former cicatrix, and made a wound near ſix inches long, and down to the perioſteum, which once more ſet free every part.

I took her again into the hoſpital, and for about a week ſhe went on pretty well; but then the elbow joint beginning to ſtiffen, I ordered the fore-arm to be moved to and fro, every day; and afterwards to be rolled to the very fingers ends, over the ſtrongeſt paſteboard that could be procured, in order to extend every part of the limb equally and fully; and thus to keep it upon the ſtretch as much as poſſible. But the pain increaſing to a conſiderable degree, we were obliged to remove the paſteboard,

after

after having continued to apply it above a week.

Some time after, Dr. Hunter calling upon me very early one morning, we went together to viſit this poor woman, and found the biceps tendon very rigid, with the wound half healed; I had it dreſſed with a ſtrong digeſtive ointment, and renewed the application of the paſteboard and roller; we left her tolerably eaſy, and came away together. We were not got far from the hoſpital, when the nurſe came running to tell us, that the woman's arm was drawing up again. We returned immediately, and found it but too true. A ſudden ſpaſm had ſeized the whole limb at once; the paſteboard indeed was ſtill on, but not having power to reſiſt the force of the muſcular contraction, was bent up as if it had been a piece of common writing paper We found the fore-arm fixed at a very acute angle, almoſt in contact with the upper arm; and the fingers as ſtrongly contracted as ever. I aſked, how it felt to her, as the fingers were clenching; her anſwer was, that "they drew up tighter and tighter, juſt

" as when a chord is drawing closer and " closer."

A blister was now applied to the inside of the upper arm, which gave her very little pain; but she complained of great uneasiness in the body of the biceps muscle, with heat and throbbing, as if matter were forming there. The breast also became full, but subsided on the application of a common poultice. The throbbing pain continued in the muscle, and she informed me that some " sort of thick stuff" came from the orifice where she had been blooded, when the injury was supposed to have been received. This part was fomented; after which a bread and milk cataplasm with unguentum mercuriale fortius was applied round the joint, and she took an anodyne at night. A redness had attacked the skin, covering the condyles of the humerus, with excessive tenderness on the least pressure, but no mark of suppuration; nor indeed did matter ever form any where. This redness and tenderness were soon removed. Nothing now appeared to come from the orifice,

orifice in the vein, and the limb remained in its priſtine ſtate.

On the 9th of June, ſeveral of my friends were invited to be preſent at a fourth operation, the effect of which I had determined to try, before I would conſent to an amputation; as I thought it yet poſſible to ſave the limb, and was very anxious to do it.

In what I intended to do, there would have been ſome danger of wounding the humeral artery, therefore the tourniquet was firſt applied, near to the axilla. The arm being then held very firm and ſteady, I began an inciſion on the middle of the biceps, carrying it deep into the body of the muſcle, in the ſame direction with its fibres, continuing it from the fleſh into the tendon; which I alſo divided in the ſame direction, as low as I could with ſafety; that is to ſay, to a little below where it ſends off the faſcia, that envelops the muſcles of the fore-arm, which are flexors of the fingers and wriſt.

As ſoon as this operation was finiſhed, the woman toſſed her arm backwards and

forwards; opened and ſhut her fingers with perfect freedom; and declared nothing ailed her, but the ſmarting of the wound.

The great freedom and looſeneſs in all the joints ſeemed much to ſurpriſe her; "Now," ſaid ſhe, "you have indeed cut the "cord that bound up my limb. From all "you did before, I never felt any thing like "this, ſo looſe and comfortable."

A full month elapſed after this laſt operation, and during all that time ſhe continued very eaſy, in good ſpirits, and with the free uſe of her limb. The wound was not yet quite healed, and the parts round about the elbow joint remained ſtill tender to the touch; otherwiſe ſhe had not the leaſt pain.

There was a large diſcharge of lymph from an orifice like a pin hole, at the lower edge of the wound, which upon bending and extending the arm, flowed more freely; being, no doubt, ſupplied from a divided lymphatic. A ſolution of blue vitriol, applied with a doſſil of lint to the orifice, ſtopped this diſcharge in about three days.

Another

Another circumſtance attending the wound was, that we could clearly diſtinguiſh by the touch a double line, or two ridges, like ſmall ſtrings upon the ſtretch, which were the riſings of the divided borders of the tendon: when the wound was completely healed theſe were no longer to be perceived.

On the 28th of July ſhe went into the country in good health; and ſome months afterwards, when I ſaw her again in town, ſhe continued to preſerve the free uſe of her arm.

I am aware that little ſtreſs can be laid on a ſingle caſe, though ever ſo extraordinary; yet ſuch a caſe may often put us on our guard; it may teach us not to deſpair, and may invite us to do ſomething that never has been attempted before.

The caſe above related, at the time we treated it, was conſidered by every one as ſingular, and unprecedented. The treatment afforded novelty; the event may ſerve as a ground for reflexion and contemplation.

After mature deliberation, ſeveral ſurgeons were of opinion, that the practice might

might be extended to contractions in other limbs, or joints; but this muſt be left to future experience to determine.

I have great reaſon to believe, that in the contracted arm, with healthy muſcles, and ſound bones, it will always fully anſwer the ſurgeon's expectation. But ſo far as the treatment in one caſe, can ſupport and authorize the like management of another, the utility of this practice may be confirmed by the following relation.

Mr. Bond, a very ingenious young artiſt, apprentice to Mr. Linnel, Carver and Cabinet-maker, in Berkley-ſquare, fell from his horſe, was blooded in the country, and after ſome time returned to town, with an arm and fingers contracted.

This accident gave him great uneaſineſs, as his buſineſs, indeed his livelihood, depended ſo much on the perfect uſe of his hands. His ſpirits were greatly depreſſed, and he was in ill health.

The late Dr. Taylor, who at that time lived in the Square, was immediately conſulted. He preſcribed medicines which ſoon reſtored the young man to better health and ſpirits. The contraction was conſidered

as

as ſpaſmodic; and it was expected a courſe of medicines would relieve it; but after a ſufficient trial, it was found that no alteration took place; the limb remaining juſt in the ſame ſtate, neither better nor worſe. I was then deſired to meet the Doctor, who liſtened to my reaſoning upon the caſe; and agreed with me in ſtrongly recommending to our patient the neceſſity of an operation, as the only means likely to relieve him. "Do any thing you pleaſe," ſaid he, "if you can but recover me the uſe "of my arm."

The operation was performed the next day. The fingers were not ſo much contracted as in the preceding caſe, therefore the wound was not extended ſo far.

I began an inciſion on the middle of the Biceps Muſcle, and carried it down to the tendon, but did not divide the tendon, being perſuaded that what I had done would be ſufficient.

The operation had its full effect. The wound healed kindly and ſpeedily. The patient's health was re-eſtabliſhed; and he recovered the perfect uſe of his arm.

Having

Having related one caſe very circumſtantially, and another in a more general way, both tending to confirm a uniform mode of practice, permit me now to make a few reflexions.

In the human body, ſeveral of the muſcles ſupply tendinous expanſions, or Faſciæ, ſo diſpoſed as not merely to embrace ſoft parts, but alſo to cover hard ones, ſuch as bones, and their articulations.

The uſe of theſe expanſions is very great. They ſupport the muſcles, ſtrengthen and increaſe the muſcular power when in action, confine and protect the blood veſſels in their proper ſituation, ſupply the place of bone where a plate of bone could not ſo conveniently anſwer the purpoſe, give firmneſs with flexibility to the joints, and preſerve the ſymmetry of the limbs.

From theſe conſiderations, it will eaſily be conceived, what inconvenience may be produced by a wounded, lacerated, or diſeaſed faſcia. But when a tendon, or its faſcia, has been injured, the ill conſequences are generally attributed to a bad habit

habit of body. It being a maxim with many, that a wounded tendon gives no pain.

Cheſelden, in his Anatomy, obſerves, " that a puncture of the tendinous expan- " ſion of the biceps muſcle, is ſuppoſed to " be always attended with grievous pain " and inflammation; and has, if we have " not miſtaken the cauſe, often proved mor- " tal: yet many eminent ſurgeons have " given inſtances of larger tendons being " cut and ſtitched, without any bad ſymp- " toms; and we have ſeen them cut, torn, " ulcerated, and mortified, without any more " ſign of pain than in other parts. So that " I cannot ſee what the great miſchief of " pricking this tendinous faſcia is owing " to, unleſs in lying ſo much upon the " ſtretch, which may be wholly avoided by " bending the elbow, and turning the cubit " prone."

With ſubmiſſion to ſuch high authority, it may be obſerved, that in our caſes, altho' the elbow was bent, and kept irreſiſtibly ſo, the pain nevertheleſs continued with great violence. The faſcia was evidently more on the

the ſtretch than if the limb had been ſtraight. The miſchief that followed muſt therefore have ariſen from ſomething more than the mere poſition of the limb.

Dr. Alexander Read, in his Chirurgical Lectures, informs us, "that the German "ſurgeons eſteem wounds of the Biceps "muſcle to be deadly. "Wounds," ſays he, "in the beginning and inſertion of it, are "moſt dangerous, becauſe theſe parts are "tendinous, and of an exquiſite feeling."

Certain it is, that punctures of the faſcia will be attended with more or leſs of inflammation.

Though the faſcia be not much injured, the patient will ſoon complain of pain. Inflammation comes on; ſometimes a little ſuppuration; the arm cannot eaſily be ſtraightened, and there will be a degree of ſtiffneſs about the joints.

A poultice applied round the orifice, and keeping the limb bent on a pillow, or in a ſling, will ſometimes ſet to rights ſo ſlight an injury in a few days.

On the contrary, when the injury is greater, the inflammation will riſe higher; the limb conſequently will ſuffer much more,

more, and an obſtinate contraction may be expected.

The pain and ſwelling may poſſibly be removed by proper applications, but the contraction will remain: becauſe the faſcia having been once inflamed, and thickened, will no longer yield to the play or action of the muſcles.

When a tendon, or its faſcia, is ſhortened and narrowed, all parts underneath it muſt be more or leſs confined. They cannot move of themſelves, or be moved; and nothing but ſetting free the tendon, faſcia, or perhaps both, can releaſe them, or give liberty to the muſcles to act with freedom upon the limb.

In the young woman's caſe above related, what was done at laſt ſhould have been done at firſt. Had we made a free inciſion into the biceps muſcle, and its tendon, in the direction of its fibres, we ſhould have removed the whole contraction at once; which we were led to do ſtep by ſtep. She indeed got quite well at laſt, after ſuffering, certainly, ſome few unneceſſary inciſions: but it was a new caſe.

The

The treatment of Mr. Bond's arm is a ſufficient proof that a ſingle inciſion, made in the proper part, is amply ſufficient. And the queſtion in all theſe caſes of contraction can only be, where ſhall we make our wound?

We may now be convinced, that although the faſcia of muſcles is ranged among the inſenſible parts of the human body, and may have but little feeling in its ſound healthy ſtate, it is nevertheleſs liable to great pain from inflammation, tenſion, and diſeaſe: in ſhort, to all that great miſchief which Mr. Cheſelden could not ſee, or did not comprehend.

The contraction of the limb may ariſe from other cauſes, than from an ill-conditioned ſtate of the tendon or faſcia. It is very common after luxations and fractures, when from neceſſity a limb has been long confined in one poſture, to have a ſtiff or contracted joint: but this, ariſing merely from habit, is eaſily remedied by time and the moſt common applications.

Fluids collected in the cellular membrane in the interſtices of muſcles, will ſtretch the tendons and faſcia, and bring on that degree

degree of contraction often to be obſerved in dropſical limbs; but in ſuch caſes the contraction is removed merely by ſcarifications, which diſcharge the fluid, and empty the cells.

The contraction of a limb may undoubtedly ariſe from ſpaſm, and in ſuch a caſe electricity will often afford a temporary relief; or perhaps a permanent cure of the complaint may be obtained from medicines. It may originate in the fleſhy parts, when the muſcles are diſproportioned, or ill-adapted to the bones; or it may ariſe from diſtortion, mal-conformation, caries, and anchyloſis of the bones; under all of which circumſtances it muſt be out of the reach of ſurgery.

We ſee inſtances of contracted limbs which perhaps at one period of life might have been cured, but which having paſſed that time, at a more advanced age become incurable. Ill habits often produce them; time confirms them, and gives that degree of permanency, which art can neither remove, nor rectify, as happens ſometimes in the caſe of a wry neck, attended with a curvature of the vertebræ colli.

An operation, therefore, in theſe caſes cannot take place; not from the difficulty or hazard in performing it, but from an impoſſibility that it can ever ſucceed, or be of ſervice.

Remarks on Bleeding.

I have known it happen, that in bleeding, in the arm, both the vein and the faſcia have been perforated by the lancet. The accident, from not having been underſtood, has been perhaps improperly treated. Upon ſtopping the orifice in the ſkin, the blood has collected and coagulated underneath the faſcia, and has diffuſed itſelf through the cellular membrane to a conſiderable extent.

Such a caſe has been attended with great fulneſs of the limb, tightneſs of the faſcia, contraction of the fingers, pain and fever, followed by abſceſs, mortification, and death.

Had the faſcia at firſt been freely divided, and the collected blood cleared away, it would probably have healed as a common wound, and the ſucceeding dreadful ſymptoms might have been prevented, as they certainly

certainly were in a ſimilar caſe, in which the faſcia was early ſet at liberty by a free wound.

Now and then a lymphatic is opened in bleeding; and I have ſeen more than a tea-ſpoonful of clear lymph diſcharged for two or three days ſucceſſively. This circumſtance is diſagreeable, and may alarm the patient, though its occurrence is of no bad conſequence. A watery ſolution of blue vitriol will ſoon conſtringe the lymphatic, and ſtop the diſcharge.

If we are to open a deep ſeated vein that may be felt, though not ſeen, and which is ſometimes buried in fat, we ſhould diſſect carefully down to the veſſel, and then open it. Perhaps the ſecureſt way to open a vein running over a tendon, or lying upon an artery, would be to lay the lancet flat upon the ſkin, and open the vein ſideways. In opening the external jugular vein, it will be better to fix the vein by gentle preſſure betwixt the thumb and fore-finger, than to apply any ſort of ligature round the neck. The ſtream may be directed into the cup or baſon by a card.

Blood-letting is now ſo much in the hands of the ignorant, that ſurgeons are very ſeldom called upon to perform it. Our hoſpital ſurgeons beſt know the accidents that often happen from this operation among the common people. Theſe accidents, indeed, ſeldom hurt the reputation of the bleeder, who having none to loſe, ſtill goes blundering on.

XXII. *A ſingular Caſe of Abſceſs of the Liver which terminated favourably.* By GEORGE SANDEMAN, M. D. *Phyſician to the General Diſpenſary. Read March 18th,* 1788.

IN the month of June, 1786, a gentleman requeſted me to viſit his daughter, a child about eight years of age, who had an uncommon ſwelling of the epigaſtric region, which made him very uneaſy, eſpecially as it gradually increaſed.

On examination, I found the lower part of the ſternum, and the ribs on each ſide, conſiderably protruded; the liver was greatly enlarged, and its margin could be traced immediately under the falſe ribs of the right hypochondrium.

The chief hiſtory I could collect of the diſeaſe was, that ſhe had had the hooping-cough to a violent degree in autumn 1784, ſo that her life was deſpaired of; that the following ſummer, during which ſhe uſed ſea bathing, the ſwelling had been firſt obſerved; that it had gradually increaſed and become

harder; that ſhe was of a coſtive habit; had in general a good, and ſometimes an uncommonly great appetite; that ſhe had been ſubject to frequent attacks of fever; and that her ſtrength and fleſh had diminiſhed.

As ſhe had been long under a courſe of mercurials, and had taken a variety of other medicines, without advantage, I concluded little was to be expected from medicine, and therefore adviſed only the keeping her body open by gentle alteratives, ſupporting her ſtrength by light nouriſhing diet, and employing gentle friction on the part.

A few weeks after this I was again ſent for. Her complexion now was ſallow, ſhe had an uneaſy pain at the præcordia, particularly on raiſing her body, in attempting a full inſpiration, or on preſſing the part; ſhe had alſo a cough, frequent nauſea, and ſymptoms of fever: theſe complaints yielded to a gentle emetic, and to the uſe of aperient and ſaline medicines.

She had many attacks of the ſame kind, and was relieved by the ſame treatment. When I viſited her at the intermediate times, her pulſe was nearly natural, her ſtools, though

though coſtive, were tinged with bile, her urine appeared as in health; but ſhe had more or leſs of a cough, and difficulty of breathing, eſpecially on the leaſt exertion; and although her appetite was uncommonly voracious, yet ſhe evidently waſted.

On the 12th of December I found matters drawing to a criſis. The pulſe was now very quick, and the heat and thirſt in proportion; the difficulty of breathing and the cough were very troubleſome, eſpecially when ſhe was ſitting upright; and ſhe complained of a pain at the top of the left ſhoulder, but her greateſt pain was at the præcordia, upon which ſhe could not bear even the weight of the bed-cloaths.

On examining the ſwelling, I perceived an apex forming, immediately under and on the right ſide of the cartilago enſiformis, which in two days, notwithſtanding the antiphlogiſtic plan was continued, became ſoft, and ſpread to the ſize of a crown piece, with evident marks of fluctuation.

I now propoſed a conſultation with ſome other medical gentlemen, and accordingly Dr. Carmichael Smyth, and the late Mr. Pott, were called in. They concurred with me in opinion that matter

was actually formed, and, conſidering the ſituation of the abſceſs on the ſuperior or convex part of the liver, near its edge, the thinneſs of the integuments, and the very reduced ſtate of our patient, we propoſed that it ſhould be immediately evacuated; being convinced that although the ſucceſs of ſuch an operation, from the previouſly diſeaſed ſtate of the liver, was doubtful, the ſuffering the matter to lodge internally was ſtill more precarious, as the chance of its burſting into the cavity of the abdomen, was much greater than that of its being evacuated by means of the ductus choledochus into the inteſtines. The parents, however, finding that we ſpoke ſo doubtfully of the iſſue of an operation, choſe rather to leave the event to Nature.

The fomentations and poultices were now laid aſide, and a warm plaiſter applied to the tumor. The patient continued to waſte daily, and notwithſtanding ſhe took great plenty of nouriſhment, had very ſoon the appearance of a living ſkeleton. Her deſire for food, and the quantity ſhe ate, was ſuch, that I found it neceſſary to unload the bowels occaſionally by clyſters and gentle aperients; the only other medicine given, was

was a preparation of the bark, with, now and then, an opiate, as her ſleep was much interrupted by the pain.

The abſceſs continued to increaſe in ſize, deſcending gradually on the right lobe, and raiſing the ribs over it more and more; a warm plaiſter was therefore now applied over the whole of the ſide affected.

On the 5th of February ſhe had a ſlight diarrhœa; the tumor was ſo large as to prevent her ſitting upright, and from her weak fluttering pulſe, and the increaſed difficulty of breathing, I expected a ſpeedy termination would be put to her ſufferings, either by the matter being diſcharged into the cavity of the abdomen, or by exhauſted nature ſinking into death.

On the 9th, aphthæ, which had been coming on for ſome days, covered the whole mouth; theſe, with an irregular pulſe, cold extremities, and Hippocratic face, made me hourly expect her diſſolution.

On the 10th, to my great ſurprize, ſhe voided by ſtool about three pints of an exceedingly fœtid matter, in which were large maſſes of a gelatinous ſubſtance, having the appearance of membranes. About half

that

that quantity was diſcharged next day; and, for a week, more or leſs of the ſame matter continued to be evacuated.

I expected at firſt, from the ſuddenneſs and quantity of the evacuation, and from the faintneſs it induced, that my little patient would be unable to cope with her diſeaſe any longer; but ſupporting her with bark, cordials, and nouriſhment, I found her pulſe next day, regular, though quick, her breathing eaſy, the aphthæ abating, and her countenance altered, ſo that I began to entertain hopes, and her daily amendment confirmed my expectation, of a perfect recovery.

When the diſcharge of matter, which became every day leſs offenſive, ceaſed, her return to health was rapid, for in three weeks ſhe was able to walk about the room. The tumor had ſubſided, her fleſh returned, her countenance began to aſſume its healthy look, and by means of aſſes milk, country air, and exerciſe, ſhe regained perfect health, and has remained well ever ſince.

I am aware, that abſceſſes of the liver are frequently diſcharged through the inteſtines as in the inſtance now related; but this caſe appears to be ſingular, from the

the unfavourable ſeat of the matter on the gibbous part of the liver, ſo that a great portion of its ſubſtance muſt have been deſtroyed before it could have reached the ductus choledochus, and ſo have paſſed into the duodenum.

Again, when we conſider the abſceſs as being not only on the convex ſurface of the liver, but near its edge, is it not wonderful, that it did not take a ſhorter courſe, and, through the leſs reſiſting parts, burſt into the cavity of the abdomen?

Laſtly, that a patient ſo greatly emaciated did not ſink entirely, or become hectic from ſuch a diſcharge of matter, ſeems clearly to prove, that the moſt unfavourable of ſuch caſes are not to be deſpaired of; and that where nature can be ſupported, ſhe will exert her boundleſs reſources both to get rid of what impedes her own operations, and to renovate and heal parts eſſential to the animal œconomy.

XXIII. *A Caſe of a Rupture of the Bladder from a Fall. By Mr.* CHARLES MONTAGU, *Surgeon of the Weſtern Diſpenſary. Communicated by Mr.* PEARSON, *Surgeon of the Lock Hoſpital. Read Jan.* 20, 1789.

J. S. aged twenty-eight years, on Saturday, December 20, 1788, about ten o'clock in the evening, fell upon his belly on the edge of a hatchway; he ſtood during a few minutes after the accident, and then fainted. I was called to him immediately, and propoſed to take away ſome blood, but he refuſed to permit me; I therefore gave him a grain of opium, and directed him to go to bed. Two hours after the fall, he complained that he could not void his urine, but declined any offers of aſſiſtance, until about two o'clock the next morning, when his pain became ſo violent, that he ſaid, "I might do what I pleaſed."

I now examined his abdomen, and found it rather tenſe; his pulſe was ſmall but regular; he had a ſtrong inclination to void his

his urine, and vomited frequently. Ten ounces of blood were taken from his arm, another grain of opium was exhibited, and his belly was fomented; I alſo introduced a bougie into the bladder, but no water was evacuated. This treatment procured him ſome relief for about three hours; but at the end of that time, the pain and inclination to void his urine returned with increaſed violence.

At ſix o'clock the next morning, having procured a catheter, I introduced it into the bladder with ſome difficulty, and evacuated about eight ounces of bloody urine, by which he was conſiderably relieved. Still, however, my patient complained of great uneaſineſs; he could neither void his fæces nor urine; his pulſe was hard and full, his reſpiration was laborious, and he vomited almoſt inceſſantly. As he would not permit me to take away any more blood, I ordered a purging medicine, which was immediately rejected; ſeveral clyſters were adminiſtered without any effect; the fomentation to the abdomen was repeated every hour; and as he retained opium upon his ſtomach better than any other medicine, it was exhibited with

with freedom. In the evening I took away with the catheter about a pint of urine of a natural colour.

I ſaw him again at five o'clock in the morning, on Monday the 22d, and found that he had paſſed a reſtleſs night. He requeſted me to draw off his urine, but I now failed in my attempt to introduce the catheter. No alteration was made in his medicines.

In the evening I took away about fifteen ounces of blood from his arm, and ordered him a ſaline draught in a ſtate of effervescence, with ten drops of thebaic tincture in each doſe; this medicine was retained. The clyſters and fomentation were directed to be continued as before.

Tueſday the 23d. He had paſſed a tolerable night, but had evacuated neither fæces nor urine; his pulſe was ſmall and quick; his tongue dry and rough; and the abdomen much diſtended. Another ſurgeon was now called, who attempted in vain to introduce the catheter; we therefore agreed to apply a bliſter upon the hypogaſtric region, and were determined

to

to puncture the bladder if no urine ſhould be voided before the morning.

In the evening we procured conveniences for making a warm bath, in which our patient was detained for about twenty minutes; and half an hour after he came out, an emollient clyſter was injected, which ſoon procured an evacuation of urine and fæces, and conſequently gave him conſiderable relief. Between twelve and one o'clock, he was again put into the warm bath, and experienced from it the ſame good effects as before. His medicines were directed to be continued.

Wedneſday, December 24. He had paſſed a tolerable night, but his pulſe was ſmaller and more frequent. He could now bend his body without ſuffering much pain, and voided ſome urine immediately after the injection of every clyſter; but as his ſtrength was evidently ſinking, I ordered a cordial mixture with laudanum to be exhibited every hour. In the afternoon a hiccough came on, he became delirious, his pulſe gradually ſunk, and at ſeven o'clock in the evening he died.

Upon

Upon examining the dead body, I found the ſtomach and inteſtines much diſtended with air; the peritonæum was evidently inflamed; there was a great quantity of inflammatory exudation thrown out upon its ſurface, and about three pints of urine in the cavity of the abdomen. The urinary bladder was in a collapſed ſtate, but upon raiſing it up, I diſcovered a rupture at its fundus, through which I could with eaſe introduce my whole hand.

It is but juſtice to myſelf to mention, that as I was merely a viſitor on board the ſhip at the time of the accident, it was not in my power to give him immediate aſſiſtance, in the way that I ſhould have thought proper, had we been in a more favourable ſituation.

I find a caſe ſimilar to this related by Bonetus, who deſcribes the ſymptoms that occurred, and the appearances on diſſection, with great accuracy.

In that caſe the patient had been drinking, and was about to void his urine, when he met with the accident. He fell fifteen feet, ſo that we cannot be ſurpriſed at being told, that beſides the rupture of the bladder,

der, there was much injury done to the other abdominal viſcera. The catheter was uſed once, and ſome blood and urine drawn off, though afterwards nothing but blood came through the urethra. The patient died in forty-two hours after the accident.

The rupture in this caſe appears to have been much in the ſame ſituation, as in that I have related, for it is ſaid, that "Quæ "ipſa circa fundum ſuum, qua rectum "ſpectat inteſtinum, viſa fuit plane diſ-"ploſa, ita ut vulnus ipſius hians ovum "gallinaceum facile potuerit admittere *."

* Vide Bonet. Sepulch. lib. iii. Sect. 24. Obſ. 12.

XXIV. *A Caſe of Hydrophobia. By Mr.* JOHN O'DONNEL, *Apothecary in London. Communicated by Mr.* FORD. *Read May* 12, 1789.

JONH SLIGHT, a butcher's ſervant in Carnaby-Market, aged twenty-three years, and of a ſtrong robuſt habit, had the misfortune, on Tueſday the ſeventh of October, 1788, to be bit in the calf of the right leg, through his ſtocking, by a large dog, without his having given the animal any provocation. It was with ſome difficulty that the dog was diſengaged. The wounds were deep and ſomewhat lacerated.

Imagining the dog to be mad, he went immediately to his father, about three miles from town, and conſulted a ſurgeon there, who, two hours after the accident, applied lapis infernalis to the whole of the bitten parts, and made a large wound, which was kept open, by repeated applications of the cauſtic, for a month. During that period he rubbed into the leg ſome ſtrong mercurial ointment twice a day, but without producing

ing a ſalivation. It ſeems right to mention alſo, that the day after the accident, he began to take the Ormſkirk medicine; and that it might not fail of ſucceſs, he took double the quantity uſually directed, and adhered in the ſtricteſt manner to the rules laid down for him.

During the digeſtion of the ſore he continued at his buſineſs; and in about a month the wound being perfectly healed, he conſidered himſelf quite well. From that time he felt no more of it, and was ſeldom heard to talk of it, being quite free from all apprehenſion.

He went on in his buſineſs until Saturday the 5th of December, ſixty days after the accident, when he felt a coldneſs in the foot of the bitten ſide, but ſuppoſed it to be cauſed by the coldneſs of the day.

On the day following (December 6,) the coldneſs, accompanied by numbneſs, extended to the knee; but ſtill, in other reſpects, he was perfectly well.

On the 7th, he felt a ſlight pain in the knee, and the numbneſs extended up the thigh.

On the 8th, the pain and numbneſs were as the day before.

On the 9th, he found himſelf ſo much indiſpoſed, as to be obliged to give up work; and at nine o'clock in the morning he went to bed.

During the whole of that day he ate nothing, but frequently drank, and complained much of thirſt. In the evening, when he got up, and ſeated himſelf near the kitchen fire, his miſtreſs obſerved that he was very dull, and ſeemed dejected; that he was almoſt conſtantly trembling, very ſilent, and ſeldom held up his head. He now perceived his leg to be ſomewhat ſwelled, but it excited in him no apprehenſion. He deſired to have ſome buttered ale for his ſupper, with a view of producing perſpiration, for he ſuppoſed he had caught cold. When he went to bed, which was about nine o'clock, he drank his ale, and ate ſome bread which had been ſopped in it.

On the morning of December the 10th, his miſtreſs finding he did not riſe, carried up to him a baſon of tea, with ſome buttered toaſt. He ate the toaſt, but did not attempt to drink; which his miſtreſs obſerving, ſhe offered him the tea, but upon putting the baſon to his head, he was obſerved to tremble, and breathe quick.

Suppoſing

Suppoſing this to be occaſioned by the ſteam of the tea, ſhe cooled ſome, and gave it to him by ſpoonfuls, which he ſwallowed, though not without great emotion.

About eleven o'clock that day, when I firſt ſaw him, he complained of a pain in the loin and hip of the ſide which had been bitten; and obſerved that if that pain could be removed, he ſhould be quite well. He ſat up in bed while I felt his pulſe, which was quick and weak; his countenance was not perceptibly altered (for I had known him before); his tongue was moiſt, red in the middle, and a little white at each ſide. He ſaid he had paſſed the moſt reſtleſs night he had ever experienced, and begged of me to give him ſomething to make him ſleep. He had made water in the night, but had had no ſtool. His ſkin was of a temperate warmth, and rather moiſt. He complained to me of the difficulty he found in ſwallowing liquids; but on my telling him how neceſſary they were for his recovery, and my begging him to try to drink, he attempted it, but with ſuch agitation and apparent dread of ſuf-

ſocation, as convinced me that he laboured under hydrophobia.

I apprized his maſter and miſtreſs of the nature of his diſeaſe, he himſelf having no apprehenſion of his ſituation. In my way home I met Mr. Ford, ſurgeon, of Golden-ſquare, who expreſſed a deſire to ſee the patient, and afterwards did me the favour to attend with me during the whole of the diſeaſe.

A bolus of ten grains of muſk, and two of opium, was ordered to be given immediately, and repeated every four hours.

We viſited him again at nine in the evening; he had then taken two boluſſes, which he ſaid had done him much ſervice, having entirely removed the pain in his loins, but they had procured him no ſleep.

His countenance was now altered; his eyes had acquired a piercing wildneſs, and he darted them with great quickneſs to any thing that attracted his attention. On aſking him what he felt, he ſaid, "I feel "nothing. I am now pretty well, and "hope to be in my buſineſs again to-"morrow."

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His pulſe at this time beat one hundred and thirty ſtrokes in a minute, and his agitation on attempting to drink was very much increaſed. He did, however, on being preſſed to it, take a little wine and water out of a ſpoon, but he ſwallowed it with great rapidity, and with wonderful emotion. The mention of liquor agitated him much, and he ſaid he could not bear the thoughts of drinking. His tongue and ſkin were as before. The boluſſes of muſk and opium were continued, and half an ounce of ſtrong mercurial ointment was ordered to be rubbed on the throat.

Dec. 11th, at noon, when we viſited the patient again, we found that he had taken four of his boluſſes, had ſlept an hour and a half, and had made water twice; but he could not tell us the colour or quantity of his urine, as he ſaid he did not like to look at it; and on pouring ſome into a glaſs before him as he ſat up, he ſeemed almoſt ſuffocated, and threw himſelf down on his face, covering it cloſe with the bed cloaths, with marks of the utmoſt agitation. On being deſired to tell us what he felt, he ſaid, a ſlight pain in his back at the right

ſide, and that he was rather weak. He had no pain in his throat except when he ſaw liquids, or attempted to drink. He was now evidently much worſe, but he was ſtill perfectly rational, and ſeemed to be not in the leaſt conſcious of the nature of his diſorder. His pulſe was irregular, and exceedingly quick and weak; his tongue and ſkin were as before.

It was now deemed prudent to put on a ſtraight waiſtcoat, but at the ſame time directions were given to leave his hands at liberty, unleſs his violence ſhould make it neceſſary to confine them. A bolus, with ſix grains of opium, and a ſcruple of camphor, was adminiſtered, and an ounce of ſtrong mercurial ointment was rubbed into the throat.

At two o'clock he became reſtleſs, very ſharp in his anſwers, and wanted to get out of bed. Two men who were employed to watch him oppoſed it, which made him very angry, and he leaped up in bed. This cauſed a ſtruggle between him and the men, one * of whom he bit in the finger,

* In March 1790, when the preſent ſheet was going to the preſs, this perſon had experienced no ill effects from the bite.

ger, and he tore the other's face in ſeveral places with his nails. It required the aſſiſtance of ten or twelve men to get him into bed again, and confine him with the ſtraight waiſtcoat; his legs were at the ſame time tied to the bed-poſts.

At four o'clock I ſaw him again; he then raved and foamed at the mouth, and threatened thoſe about him; made a moſt hideous noiſe; ſpate a vaſt quantity of tough white froth with great force, ſome of which adhered to his chin; his eyes were fierce, and his countenance very wild, forming altogether the moſt terrifying object I ever beheld.

He was now ſenſible of his unhappy ſtate, talked of biting and ſpitting at thoſe about him, and was making conſtant efforts to diſengage himſelf from the ſtraight waiſtcoat. The agitation, which formerly only appeared when he attempted to drink, was now conſtant, with a ſuffocating cough, which reſembled more nearly the noiſe a dog makes when he has any thing in his throat he is endeavouring to get up, than any thing elſe I can compare it to; throwing

ing out with every cough a quantity of white frothy mucus. Though he lay in a garret, the noiſe he made was heard in the ſtreet. This noiſe, which was truly dreadful, was compared by the people about him to the howling of a dog; and indeed it required no great ſtretch of imagination to do ſo.

His unquiet ſtate induced me to give him another bolus with ſix grains of opium, in hopes of quieting him; but it had not that effect. At half an hour paſt eight I ſaw him again with a medical friend, and his raving was then, if poſſible, increaſed. Upon ſoothing him, however, I brought him very conſiderably to his reaſon, and he gave very diſtinct anſwers to any queſtion aſked him. He complained of the pain in his back; and had made water ſeveral times involuntarily. He had no pain in his head, but ſaid he was raving, and hoped he was not to be ſmothered. I aſſured him his diſeaſe was a common fever, and that he would be better the next day if he would keep himſelf quiet. This ſeemed to compoſe him much. I deſired him to ſhow me his tongue, which

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he put out uncommonly far, and it ſeemed much enlarged. When I left him his raving returned as bad as before.

I ſaw him, for the laſt time, about half after eleven o'clock at night, when he was much weaker. His raving was now changed to that ſort of delirium which we commonly ſee in the laſt ſtage of typhus. His face on the bitten ſide was ſo much ſwelled, that his eye was completely cloſed; the other ſide was free from any ſwelling. Whether this aroſe from the mercury, from a blow during his ſtruggle, or from the diſeaſe, I will not take upon me to determine; but thoſe about him knew nothing of his having received any hurt.

He was now evidently dying, and about half paſt twelve he expired, after having been affected with hydrophobia thirty-nine hours and a half.

Thus ended a diſeaſe, of which I confeſs, notwithſtanding all the caſes I had read of it, I had no juſt idea, the preſent caſe exceeding in violence any thing that language can repreſent.

The failure of the means uſed for the prevention of the diſeaſe, in this caſe, is another

another proof of the inefficacy of the application of cauſtic to the bitten part; and ſhould, I think, determine us to have recourſe immediately to the only means upon which we can depend, viz. extirpation of the part by inciſion.

The popular reliance on the Ormſkirk medicine cannot be too ſtrongly reprobated, as it promotes in the perſon bitten a dependence upon a remedy which is totally inefficacious; and of courſe, by lulling the patient into groundleſs ideas of ſecurity, leads to the neglect of exciſion.

In my narrative of this caſe, I have confined myſelf entirely to an hiſtorical detail of the ſymptoms; and have avoided all theory and conjecture reſpecting its ſeat, or the manner of its production, in hopes that this, with other inſtances upon record, may, at ſome future time, aſſiſt the philoſophic enquirer in forming the true theory of the diſeaſe.

XXV. *On the Medicinal Properties of the Muriated Barytes.* By ADAIR CRAWFORD, M.D. F.R.S. *Phyſician to St. Thomas's Hoſpital. Read November* 10, 1789.

IN the year 1784 I made ſeveral experiments and obſervations on the medicinal properties of the Muriated Barytes, from which I concluded, that it might probably poſſeſs conſiderable powers as a deobſtruent.

This ſalt, when perfectly neutral, has a bitter taſte; but the portion of it which was uſed in my firſt experiments happened to contain a ſmall exceſs of acid, by means of which the bitterneſs was in a great meaſure deſtroyed, and its taſte became ſomewhat ſimilar to that of common ſalt. From this ſimilarity it ſeemed not impoſſible, that its virtues might reſemble thoſe of the latter ſubſtance; and there could be little doubt that its activity would be greater, becauſe the heavy earth, in ſeveral of its properties, has a conſiderable reſemblance to a metallic calx.

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I moreover found, that a ſmall quantity of the muriated barytes, when it was diſſolved in water, and taken into the ſtomach, excited an agreeable ſenſation of warmth; and I had reaſon to believe that it would act gently as a laxative and a diaphoretic.

Theſe facts led me to ſuppoſe that it would make a valuable addition to the materia medica. I was, however, at that time obliged, by my other avocations, to omit the farther proſecution of this ſubject. But laſt winter having acquired more leiſure, I determined to reſume it, and to give the ſalt a fair trial in ſcrophulous and cancerous complaints.

As its exhibition has, in a variety of inſtances, been attended with remarkable ſucceſs, I ſhall beg leave to lay before the Society a brief account of all the trials which were made with it in caſes admitted into St. Thomas's Hoſpital, prior to the month of June, 1789.

CASE

CASE I.

The firſt patient to whom I gave it, was a man who had long been afflicted with a cancer of the penis, and who laboured under the laſt ſtage of that deplorable diſeaſe. I had tried the common medicines without effect, and therefore conſidered his caſe as irremediable by any mode of treatment hitherto diſcovered.

It appeared to be juſtifiable in ſuch a caſe to make trial of a new remedy.

For although in diſeaſes that admit of a cure, it ſeems inconſiſtent with the laws of humanity and juſtice to prefer, for the ſake of experiment, a doubtful remedy, to one that has been eſtabliſhed by long experience; yet in the maladies for which no remedy has been diſcovered, it appears perfectly agreeable to the duty which we owe to ſociety, to make a cautious trial of ſuch new ſubſtances, as may appear from their ſenſible qualities to afford the moſt diſtant proſpect of relief.

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I therefore began by preſcribing for this patient two drops of a ſolution of the heavy earth in marine acid, to be taken in a tea-cupful of pure water twice in the day.

Perceiving that the medicine did not produce any diſagreeable effects, I gradually increaſed the doſe to ſix drops twice in the day.

His pains, while he was under this courſe, were leſs ſevere than they had formerly been, and the hæmorrhages of the penis leſs frequent and profuſe.

But in a week or ten days his ſtomach, which was in a very irritable ſtate, began to nauſeate the medicine.

It therefore became neceſſary gradually to diminiſh the doſe; and as, after a few days further trial, it was found even in the quantity of two drops to excite nauſea, it was judged proper entirely to omit it.

Although I attended ſolicitouſly to the effects of the medicine in this inſtance, yet I could not perceive that it increaſed the ſecretions, either by the ſkin or the kidneys, or that it produced any other ſenſible effects, excepting thoſe recited above.

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As it appeared however for a time to have mitigated the diſeaſe, I was encouraged to try it in ſome other caſes.

CASE II.

JAMES GOODWIN, a ſailor, aged nearly thirty-five years, was admitted into St. Thomas's Hoſpital as a patient under the care of Mr. Cline.

He had been attacked in the month of Auguſt, 1788, with pains in his left hip and knee, for which ſeveral remedies had been employed without ſucceſs.

In the beginning of January, 1789, a hard tumor ſuddenly aroſe in one of the glands of the breaſt, which ſoon increaſed to the ſize of a walnut. This tumor was accompanied with an acute pain, extending acroſs the breaſt to the ſternum. It was not red or inflamed.

Having ſeen him in conſultation with Mr. Cline, in the firſt week of January, I recommended pills conſiſting of one grain of calomel, a quarter of a grain of emetic tartar, and half a grain of opium to be taken

twice in the day; and Mr. Cline adviſed a ſoap plaiſter to be applied to the tumor of the breaſt. By theſe remedies the pains of the hip and knee were relieved, but no change whatever was produced in the tumor. The ſize and hardneſs of the gland remained undiminiſhed, the pain that ſhot acroſs the ſternum was not mitigated, and the breaſt was ſore to the touch.

Our patient moreover complained that his appetite was not ſo good now as it had formerly been, that his ſtrength was ſomewhat leſſened, and his general health impaired. For theſe reaſons, on the 7th of February, the pills were omitted, and four drops of the ſolution of muriated barytes were preſcribed, in a tea-cupful of pure water, twice in the day.

As the medicine did not produce any unpleaſant ſymptoms, the doſe was ordered to be gradually increaſed, with a view to diſcover how much the ſtomach could bear. In a few days it was found, that if the quantity given at a time exceeded eight drops, it excited nauſea. I therefore deemed it proper to perſevere in the uſe of the latter quantity.

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The firſt effects of the medicine in that doſe were an increaſe of appetite, an unuſual flow of urine, and an improvement in the general health of our patient. In a few days the pain of the breaſt entirely ceaſed, and in the courſe of a fortnight the tumor was completely removed. The drops were continued till the firſt of March, at which time, as the whole of the quantity that I had ſent to the Hoſpital was expended, and the breaſt had remained well for a week, the medicine was omitted.

The pains of the hip and knee having in ſome meaſure returned, I ordered him half an ounce of the ſpiritus mindereri every ſix hours, and the following plaiſter was applied to his loins:

R. Emplaſt. e Cymino ℥ij.
Opii colat. gr. x.—M. S. A.
& fiat Emplaſtrum regioni lumborum applicandum.

Theſe remedies relieved his rheumatic complaints, but in the courſe of a week a ſwelling appeared in the right breaſt, accompanied with a tenderneſs of the part,

and an acute pain in the ſternum affecting reſpiration.

By the middle of March the tumor was increaſed nearly to the ſize of a walnut. I therefore again had recourſe to the ſolution of the muriated barytes. It was indeed the earneſt wiſh of the patient that I ſhould repeat this medicine, for he affirmed that he never before uſed any remedy from which he reaped ſo much benefit.

The medicine was now ordered in the quantity of eight drops twice a day; but as in a little time that quantity occaſioned ſickneſs, the doſe was diminiſhed to ſix drops.

In the courſe of a few days the pain of the ſternum, and tenderneſs of the breaſt, were removed, and in three weeks the tumor entirely ſubſided.

The medicine produced the ſame ſenſible effects as it had formerly done. It occaſioned an increaſe in the flow of his urine, and an improvement in his appetite and general health.

On the 21ſt of April I found that his breaſt continued free from complaint, but that he had a ſlight return of the pain

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in his hip. I however ordered him to perſevere in the uſe of the medicine, and when I again ſaw him on the 28th, all his complaints were removed. He was therefore diſmiſſed cured, being deſired, after he left the Hoſpital, to continue to take the drops for a month or ſix weeks.

It is proper to obſerve, that this patient had ſeveral ſcars in his neck immediately below the chin, together with a general redneſs in that portion of the ſkin that covered the parts adjacent. He affirmed, that this appearance aroſe from his having been ſcalded by hot water, which had accidentally fallen upon his neck at an early period of his life. I could not however help thinking, that the cicatrices very much reſembled thoſe produced by the healing of ſcrophulous ulcers.

CASE III.

SARAH WOOD, aged eighteen years, was admitted into St. Thomas's Hoſpital as a patient under my care, on the 29th of January, 1789.

In April, 1788, a little tumor appeared on the lower part of her left noſtril adjacent to the bridge of the noſe. This tumor, after ſome time, broke, diſcharged a thin matter, and became covered with a ſcab. The ulcer however did not heal, but continued gradually to increaſe in ſize, till it crept around the lower and interior circumference of the noſtril; the parts affected, like the original tumor, ſucceſſively ſwelling, ſuppurating, and becoming covered with a ſcab.

When ſhe was admitted into the Hoſpital the noſe was very tender, and ſhooting pains were felt in it.

It is proper to remark, that ſoon after ſhe was attacked with the complaint in her noſtril, a red ſpot appeared on the corner of her noſe, immediately below the inner canthus of the left eye, and that about the ſame time a pretty large herpetic blotch aroſe on the left arm near to the elbow. In all other reſpects ſhe was in perfect health.

The firſt medicine preſcribed for this patient, was a pill conſiſting of two grains of calomel, and two of precipitated ſulphur of antimony, to be taken every night.

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In a little time the diſeaſe of the noſe ſeemed to be ſomewhat alleviated, and the herpetic blotch was evidently amended: but the medicine ſoon appeared to have loſt its efficacy as to the former complaint: for although ſhe perſevered in the uſe of it during five weeks, yet, after the firſt fortnight, the ulcer in her noſe ſhewed not the leaſt ſign of amendment. I therefore varied the medicine by giving her pills, containing a grain of calomel, a quarter of a grain of emetic tartar, and half a grain of opium, twice in the day. And after a little time, finding that no advantage was gained, I ordered four ounces of the decoction of ſarſaparilla, and a drachm of the powder to be taken every ſix hours; the pills being continued night and morning.

Theſe remedies, however, did not produce the leaſt amendment in the ulcer; on the contrary, it continued evidently to increaſe till the beginning of April; although previouſly to that time I had ſucceſſively made trial of the tincture of martial flowers, of extract of hemlock in the quantity of twelve grains, twice in the day, and of the unguen-

tum citrinum, and the corroſive ſublimate.

At the above-mentioned period the extent of the ulcer was enlarged, and it had penetrated deeper than when ſhe came into the Hoſpital, a greater portion of the bridge of the noſe having been deſtroyed by it. There was moreover a conſiderable thickening of the ſkin and cellular ſubſtance around the edges of the ſore, and it diſcharged as at firſt, a thin matter, which, by the evaporation of the fluid parts, formed itſelf into a cruſt upon the ſurface.

The pain of the noſe was now much increaſed. Having exhibited ſo many powerful remedies in vain, I began to deſpair of ſucceſs. I determined, however, as the laſt reſource, to make trial of the muriated barytes.

This medicine was therefore preſcribed on the 7th of April, in the quantity of four drops twice in the day, the doſe being ordered to be gradually increaſed till it excited nauſea. And as the herpetic blotch had evidently been diminiſhed by the mercurials, the pill compoſed of calomel, and

of

of precipitated ſulphur of antimony, was repeated.

In a week after ſhe entered upon this courſe, the pain of the noſe was entirely removed, and the ulcers ſhowed an evident diſpoſition to heal; her appetite at the ſame time was much improved, and an unuſual flow of urine was produced. The doſe of the muriated barytes was gradually increaſed to twenty drops twice in the day. This is the largeſt quantity that any of the patients to whom I have given it, has as yet been able to bear without nauſea.

The medicines having been continued for the ſpace of a month, at the expiration of that time the ſtate of the ulcer was much amended: but as during the laſt week the progreſs towards recovery had been very ſlow, and as my patient was naturally of a ſtrong conſtitution, I ordered her to live upon a milk and vegetable diet every ſecond day. The good effects of this change of regimen being very apparent, in a fortnight afterwards I enjoined a total abſtinence from animal food and fermented liquors. From this time the thickened integuments around the edges of the ulcer became gradually ſofter, its ſize

continued

continued to diminiſh, and at the end of three months it was entirely healed.

About a month before ſhe left the Hoſpital, the red ſpot below the inner canthus of the eye had ſwelled, ſuppurated, and healed, and when ſhe was diſmiſſed, the herpetic blotch of the arm was completely removed.

As I was apprehenſive of a relapſe, I adviſed her to perſiſt in the uſe of the muriated barytes for ſeveral months, and to adhere ſtrictly to a milk and vegetable diet.

It may not be unworthy of notice, that although in this caſe, after my patient had been confined to a milk diet, the diſeaſe continued conſtantly to abate, till it was entirely removed, yet the progreſs of the cure appeared to ſuffer a kind of fluctuation, for every ſecond week it evidently advanced conſiderably faſter than it had done the week before.

CASE IV.

ALEXANDER SIMPSON, aged twenty-eight years, was admitted a patient under the care of Mr. Cline, on the 6th of Nov. 1788.

He had got his right foot bruiſed on the 16th of the preceding October, in conſequence

quence of which the joint of the ancle ſwelled to a conſiderable ſize, the tumor being red, inflamed, and very painful; the ſkin of the ancle, on the day that he was received into the Hoſpital, broke in four places, and a thin matter was diſcharged. For this complaint, a variety of the moſt effectual external remedies were applied, by Mr. Cline's directions, during the ſpace of ſeveral months, but the diſeaſe did not give way. On the contrary, it continued to increaſe till the 6th of April, 1789, when I viſited the patient, in conſultation with that gentleman.

The leg was now conſiderably waſted, the ancle was of a dark, red colour; it was ſtiff, painful, and much enlarged, and the ulcers continued to diſcharge a thin, acrid matter. A ſinus was, moreover, formed in the interior part of the tumor, which ſuffered a probe to penetrate obliquely, until it reached the bone; and Mr. Cline aſſured me, he could diſtinctly perceive that the bone was diſeaſed.

It was not probable that this complaint would yield to any of the remedies in common uſe.

We were, therefore, of opinion, that it would be neceſſary to have recourſe to amputation. But as the muriated barytes had produced a remarkable effect in the caſe of Goodwin, recited above, it was thought proper to give it a fair trial.

Our patient began by taking from ſix to ten drops of the ſolution twice in the day. The ſucceſs attending the exhibition of this remedy exceeded our moſt ſanguine expectations. Its immediate effects, as in the two preceding caſes, were an increaſed ſecretion by the kidneys, and an improvement in the appetite and general health.

In a little time, the redneſs and ſwelling of the ancle began to diminiſh; the pain abated, and the ulcers ſhowed a diſpoſition to heal; and by the beginning of May, the complaint was ſo far ſubdued, as to give us reaſon to conclude, that amputation would not be neceſſary.

The doſe of the drops having been gradually increaſed to ten, twice in the day, he was, on the 12th of May, ſuddenly attacked with a vertigo. I could not learn, from a ſtrict enquiry, that the medicine before this time had produced giddineſs of the head;

head; nor was its exhibition, on the day to which I have alluded, immediately attended with that effect; for the medicine had been given in the morning, and the vertigo came on in the forenoon, ſoon after he had made a hearty breakfaſt.

This attack was accompanied with a conſiderable degree of ſtupor, which in ſome meaſure rendered him incapable of giving a rational anſwer to the queſtions which were aſked him. It was likewiſe attended with a frequent pulſe, an increaſed heat, and a loſs of appetite.

Some of the Medical Gentlemen who were preſent, attributed theſe ſymptoms to the muriated Barytes. But I confeſs, I could not help conſidering them as the effects of fever. Several of the patients in the ward were at that time labouring under a Typhus: and although, by an attention to cleanlineſs and ventilation, the utmoſt care was taken to prevent its ſpreading, yet it ſeemed very probable that Simpſon had caught the diſeaſe by infection. An attention to the manner in which he was attacked, confirmed me much in the truth of this opinion. For a ſtupor, or head-ach,

is frequently the firſt ſymptom of the Hoſpital fever; the affection of the head being ſoon ſucceeded by a frequent pulſe, an increaſed heat, and nauſea.

I have found by repeated experience, that if, upon the firſt appearance of the headach and vertigo, before the nauſea ſupervenes, the bark be exhibited in large doſes, the diſeaſe will for the moſt part be ſpeedily removed. Having, therefore, omitted the muriated barytes, I preſcribed two ounces of the decoction of the Peruvian bark, and half a drachm of the powder, to be repeated every third hour.

In a few days, the giddineſs of his head, frequency of his pulſe, and increaſed heat, entirely diſappeared; and as the diſeaſe of the ancle continued to abate, he was ordered to perſiſt in the uſe of the bark.

On the 15th of May, the ulcers were completely healed. The bark was continued until the 25th; but during the laſt ten days, the ancle did not appear to gain ground. It was ſtill ſtiff, painful, and much enlarged. For this reaſon, he again had recourſe to the ſolution of the muriated barytes, which was preſcribed in the quantity

tity of ſix drops twice in the day, the bark being continued every eighth hour. Upon the repetition of the drops, a very evident amendment took place; and by the 7th of June, the ſwelling of the ancle was entirely removed. Our patient then felt no pain in the joint, excepting a ſlight uneaſineſs upon motion. It was ſtill very weak.

Upon examining him as to the ſenſible effects of the medicine, he ſaid, that it had ceaſed to operate as a diuretic, but that his health and appetite were good; and he affirmed, that ever ſince he had begun to take the drops, he had ſlept much better than before. The bark was omitted in the month of July; but the drops have been continued until the period at which I now write, October 31, 1789. His ancle gains ſtrength, and he has no complaint remaining in it, excepting weakneſs, and a ſlight degree of uneaſineſs when he attempts to move it.

It is ſomewhat remarkable, that the right foot is now rather ſmaller than the left.

CASE

CASE V.

HENRY THOMPSON, aged eleven years, was admitted a patient under the care of Mr. Cline.

In the beginning of the year 1787, he underwent an operation for a fiſtula in ano, by which the complaint was removed, and he continued to enjoy good health till the autumn of the year 1788. He had then a ſlight return of the diſeaſe; but it ſoon diſappeared without the aſſiſtance of medicine. When the fiſtula began to abate, a painful tumor aroſe on the inner ſide of his left ancle, and at the ſame time his health and appetite were a good deal impaired.

External remedies were applied to this tumor for a fortnight, but as it did not ſeem diſpoſed to ſuppurate, I preſcribed in the firſt week of May from four to ſix drops of the ſolution of muriated barytes twice a day. Upon taking this medicine, there was an immediate improvement in his appetite and general health, the flow of his urine was increaſed, the pain of his leg abated, the

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ſkin broke in ſeveral places, and diſcharged a thick whitiſh fœtid matter. On the 9th of May his leg was almoſt healed. Having perſevered in this courſe until the end of June, he was diſmiſſed cured.

CASE VI.

JAMES HESKITT, aged twelve, was admitted a patient under Mr. Cline, on the 13th of May, 1789.

He had been for ſeveral months afflicted with ſwellings of the lymphatic glands in the neck, ſome of which ſuppurated, and diſcharged a thin matter. His health was in other reſpects good.

Having ſeen him, in conſultation with Mr. Cline, on the 16th of May, he was ordered to take from three to ſix drops of the ſolution of the muriated barytes, twice a day. By this medicine the flow of his urine was much increaſed.

In a little time the tumors became ſofter, and were diminiſhed in ſize; the ulcers healed, and at the expiration of five weeks he was diſmiſſed cured.

CASE VII.

ELEANOR GARRET, aged nineteen, was admitted a patient under my care on the 23d of April, 1789.

In the courſe of the winter ſhe had been attacked with a fever, for which ſhe was received into the hoſpital on the 4th of December. This complaint continued for more than two months, and left her in a very weak ſtate. At the end of ten weeks ſhe was attacked with a cutaneous eruption, extending almoſt over her whole body. This eruption appeared in the form of red pimples, which were attended with great itching, and ſoon became covered with ſcabs.

As it did not yield to the common remedies, and as her general health was very bad, ſhe was adviſed to remove from the hoſpital for the benefit of freſh air. This change, however, did not ſeem to promote her recovery; no favourable alteration took place in the ſtate of the eruption, and ſhe continued to be afflicted with ſlow fever, night ſweats, and loſs of appetite.

About

About a week before ſhe was re-admitted into the hoſpital, a ſwelling appeared under the left ear, which increaſed nearly to the ſize of a walnut, but was not attended with pain. For theſe complaints I preſcribed, on the 23d of April, from three to ſix drops of the ſolution of muriated barytes thrice in the day; and ordered the ſulphur ointment to be applied externally to the eruptions. By theſe remedies her health and appetite were in a ſhort time much improved, the flow of her urine was greatly increaſed, her night ſweats were removed, and by the 12th of May the ſwelling under her ear had entirely ſubſided, the cutaneous eruption having at the ſame time diſappeared.

As ſhe now began to be troubled with pains in her limbs, I omitted the drops, and preſcribed a pill, containing half a grain of calomel, twice in the day, by which the pains were removed; but after a little time, the pill and ſulphur ointment having been continued, the cutaneous eruption again made its appearance. Having examined her on the 20th of June, I found that the latter complaint was very much

increaſed; that her appetite and general health, ſince the drops had been diſcontinued, were in ſome meaſure impaired; and that ſhe was afflicted with a ſevere pain in her head. I therefore ordered the pills and ſulphur ointment to be omitted, and again preſcribed ſix drops of the ſolution of muriated barytes twice a day. As ſhe did not ſleep well, I likewiſe gave her a pill, conſiſting of one eighth of a grain of emetic tartar, and one third of a grain of opium every night. By theſe remedies all her complaints were ſpeedily relieved. In a few days the pain of her head was removed; the flow of her urine was greatly increaſed; her pulſe became natural, her appetite good, and the cutaneous eruption began to abate. She perſevered in the uſe of the muriated barytes, till the middle of July, and as the cutaneous eruption and the ſymptoms of debility were then entirely removed, the medicine was omitted.

She was ſoon afterwards, however, attacked with hyſterical complaints, to which ſhe had been formerly ſubject. For theſe complaints the bark and aſafœtida were preſcribed,

preſcribed, by which they were in a ſhort time ſubdued, and ſhe was diſmiſſed cured.

CASE VIII.

Dew Barnes, aged thirty years, in the month of May, 1778, caught a gonorrhœa, which was ſucceeded by a ſwelling in the groin. For this complaint he took many medicines, which he ſaid did not make his mouth ſore. In the mean while he lived irregularly, and drank freely of ſpirituous and fermented liquors. The bubo after ſome time ſuppurated and healed. But the running from the penis continued until the month of October, when he was attacked with the ſmall pox. Upon this attack the gonnorrhæa diſppeared, and he ſoon recovered from the ſmall pox, which was of the diſtinct kind. His general health, however, after his recovery from the latter diſeaſe, was much impaired; and early in the winter of 1788, a tumor aroſe on the back of the left hand, which was red and inflamed, but not painful.

This tumor after ſome time was opened, and diſcharged a thin ichorous matter, but

did not ſhow a diſpoſition to heal. About the month of November he was attacked with an eryſipelas in the face, and ſoon afterwards ſwellings aroſe in the lymphatic glands of the neck, which ſuppurated and diſcharged a thin matter.

In the mean time the diſeaſe in his hand continued to encreaſe.

As a variety of external and internal remedies had been tried, without producing any abatement in his complaints, and as it was ſuſpected that he might poſſibly ſtill have a venereal taint lurking in his conſtitution, he underwent, in the month of March, a ſlight ſalivation.

From this courſe, however, he did not appear to reap the ſmalleſt benefit; on the contrary, his health continued to decline; he became much emaciated; he had a low frequent pulſe; was every evening attacked with cold ſhiverings; his appetite was impaired; he had much thirſt; was afflicted with a troubleſome diarrhœa; and his hand which had at firſt diſcharged only a ſmall quantity of ichorous matter without pain, now broke out into a large painful ulcer, which diſcharged a bloody offenſive matter.

For

For theſe complaints the bark with anodynes and mild aſtringents were preſcribed; which in ſome meaſure relieved his diarrhœa, but the other ſymptoms continued with unabating ſeverity.

Having ſeen him about the middle of May, in conſultation with Mr. Cline, and finding that other remedies had proved ineffectual, it was thought proper to make trial of the muriated barytes. He was ordered to take, twice in the day, from four to eight drops of the ſolution in two ounces of the decoction of the Peruvian bark.

I believe I ſhall give a juſt deſcription of the feelings of the medical gentlemen who attended, when I ſay, that they beheld with aſtoniſhment the change which took place in the ſtate of our patient, ſoon after the exhibition of this remedy. The formidable train of ſymptoms enumerated above, began ſpeedily to diſappear, and by the 30th of June he was entirely free from diarrhœa, cold ſhiverings, and hectic fever; his appetite was as good as it had been when he was in perfect health; he had much encreaſed in fleſh, the tumors in his neck

were greatly diminiſhed, and the ulcers nearly healed; the ulcer in his hand was conſiderably reduced in ſize, and the pain was entirely removed.

From the time that he firſt began to take the muriated barytes, he made a greater quantity of urine than he had ever done at any former period of his life.

Having examined him on the 14th of July, it appeared that his general health was good; that the ſwelling of his hand was much diminiſhed; that the ſize of the ulcer was not more than half as great as it had been before he began to take the muriated barytes; and that he could move his fingers, which he had not been able to do for ſeveral months prior to the exhibition of that medicine.

In the beginning of Auguſt the ulcer in his hand was completely healed, and on 7th of that month he was diſmiſſed cured.

CASE IX.

ELIZABETH PARADISE, aged twenty-two, was admitted a patient under Mr. Cline, on the 27th of November, 1788.

In

In the month of November, 1787, ſhe was attacked, without any appparent cauſe, with pain of the left knee, which was ſoon ſucceeded by a tumor uniformly ſurrounding the joint. When ſhe was received into the hoſpital, the knee was ſwelled nearly to the ſize of her head; it was ſtiff and very painful. Her general health at the ſame time was much impaired. She had a ſtrong and quick pulſe, ſickneſs of ſtomach, loſs of appetite, cold ſhiverings, and night ſweats. Soon after ſhe was admitted, Mr. Cline inſerted a ſeton in her knee, by which the ſwelling was conſiderably reduced, but the pain was not relieved.

On the 2d of May, 1789, I ſaw her in conſultation with that gentleman. The ſtate of her health was then nearly the ſame as it had been when ſhe was firſt admitted; and her knee was ſtill conſiderably ſwelled, and very painful. She was ordered to take from four to ten drops of the ſolution of the muriated barytes, twice in the day.

This medicine was continued till the 19th of May, when it appeared that her pains were not relieved; that her ſickneſs of ſtomach was neither encreaſed nor diminiſhed,

niſhed, that no favourable alteration had taken place in the frequency of her pulſe, the cold ſhiverings, or the night ſweats. She however made a great deal more water than uſual; but as a troubleſome diarrhœa had ſupervened, the medicine was omitted for the preſent. Two leeches were applied to the knee, and a mixture was preſcribed, conſiſting of mint water, ſpirit of lavender, and the powder of columbo root, to be taken twice in the day. By theſe remedies her ſickneſs of ſtomach and diarrhæa were in ſome meaſure relieved; but as little alteration was produced in her other complaints, I ordered her on the 10th of June, to live on a milk diet every ſecond day. Soon after ſhe entered on this courſe, a favourable change took place in the ſtate of her general health.

I therefore, on the 25th of June, again preſcribed the ſolution of the muriated barytes, in the quantity of eight drops, twice in the day.

Having examined her on the 10th of July, it appeared that her ſickneſs of ſtomach and diarrhœa were removed; that her appetite was good, her pulſe natural; that

ſhe

ſhe was free from cold ſhiverings, and that her night ſweats had in a great meaſure diſappeared; that the pain of her knee was ſomewhat relieved; and that the flow of her urine had been greatly increaſed from the time when the muriated barytes was repeated.

On the 14th of July ſhe was ordered to live intirely on a milk diet. In the courſe of a month after this period, her appetite and general health were perfectly reſtored; her left knee was reduced to as ſmall a ſize as the right. For more than a week in the middle of July, it was intirely free from pain; but the pain ſoon after that time in ſome meaſure returned. Towards the end of the month, however, it again diſappeared. This change ſeemed to have ariſen from the exhibition of the Peruvian bark, which was now preſcribed in conjunction with the muriated barytes. Having perſevered in the uſe of theſe remedies till the 17th of Auguſt, ſhe was diſmiſſed from the hoſpital, being in all reſpects free from complaint; excepting that ſhe had a conſiderable degree of weakneſs in her knee.

I ſhall

I ſhall briefly mention the reflections which occured to me during the treatment of this caſe.

I conſidered the diſeaſe under which our patient laboured, as a ſcrophulous affection of the knee; and was led to infer from what I had obſerved in ſimilar inſtances, that the muriated barytes was calculated to remove it. To what cauſe then was it owing, that upon the firſt exhibition of the medicine, no alleviation of the ſymptoms took place? I endeavoured to ſolve this difficulty in the following manner.

The animal body is a complicated machine, conſiſting of an infinite variety of irritable parts, that are in a continual motion; and it is neceſſary that the quantity of motion and of irritability in the ſeveral organs, ſhould be preſerved within certain limits, in order that each ſhould perform its proper functions.

In the patient whoſe caſe I was conſidering, the motions of the vaſcular ſyſtem evidently exceeded the limits of health; and it was apparent, from the extreme tenderneſs of the part, and the pain which ſhe felt in it, that the knee was affected with a morbid irritability. In ſuch a ſtate of the habit,

habit, it was poſſible that the exhibition of a tonic medicine (even although it were calculated to remove the cauſe of the diſeaſe) might be productive rather of injurious than of ſalutary effects.

We know that the Peruvian bark poſſeſſes powers which are adapted to the cure of an intermittent fever; but certain conditions of the ſyſtem are required, in order that it ſhould produce this effect: and from the failure of ſuch conditions, we find that this diſeaſe ſometimes reſiſts the operation of that powerful remedy.

In purſuance of theſe ideas, I endeavoured, by confining our patient to a milk diet, to repreſs the encreaſed action of the heart and arteries, and to diminiſh the irritability of the ſyſtem. I at firſt, however, preſcribed that regimen only every ſecond day, as I was apprehenſive that dangerous conſequences might ariſe from a ſudden change in the mode of living. Having found, in a little time, that the inflammatory ſymptoms in a great meaſure diſappeared, I was led to hope that the cauſes which had impeded the operation of the medicine, upon its firſt exhibition, were removed.

unmoved. The event ſeemed to prove that this opinion was well founded: and hence we may probably infer, that the muriated barytes will not be productive of ſalutary effects in thoſe caſes in which much inflammation is preſent.

It is proper however to remark, that although the efficacy of this ſalt appears in the foregoing caſe to have been counteracted by a tendency to inflammation in the ſyſtem, yet I could not perceive that it increaſed the inflammatory ſymptoms.

I have indeed in a few inſtances obſerved, that this medicine excited action in parts which were very irritable; but in moſt of the caſes in which it was tried, it was not found to poſſeſs a heating quality, or to produce an inordinate motion of the heart and arteries.

CASE X.

MARY CLARKE, aged twenty-four, was admitted into the Hoſpital, under the care of Mr. Cline, on the 2d of May, 1789.

At

At the age of ſeventeen ſhe was attacked with a ſwelling of the right leg, which was accompanied with redneſs of the ſkin, and with much pain.

This complaint ſoon diſappeared, and after a little time a ſimilar ſwelling aroſe on the ancle of the left leg, which in the courſe of a few weeks inflamed, ſuppurated, and healed. Thus the diſeaſe returned, and diſappeared, for ſeveral times ſucceſſively; till at length an ulcer was formed in the left ancle, which continued during the ſpace of ſix months to diſcharge a thin acrid matter.

In the ſpring of the year 1787 ſhe was admitted a patient into the Hoſpital, where ſhe remained till the month of April, 1788.

The ulcer of her ancle, ſoon after her admiſſion, was healed by outward applications, and by the internal exhibition of a pill compoſed of calomel and of precipicipitated ſulphur of antimony.

The removal of this complaint was ſoon followed by a painful ulceration of the great toe of the left foot, which was gradually healed by dreſſings, and by a perſeverance in the uſe of the pill.

In

In the month of March ſhe was diſcharged from the Hoſpital apparently cured; but in a ſhort time the diſeaſe of her toe returned. She was therefore re-admitted under the care of Mr. Cline, on the 2d of May; when her complaints were as follow: A large painful ulcer on the great toe of her left foot, which diſcharged a thin ichorous matter; health much impaired; a pale countenance; a bad appetite; a frequent pulſe.

Having ſeen her in conſultation with Mr. Cline, I preſcribed from four to eight drops of the ſolution of muriated barytes twice in the day.

Upon taking this medicine the ſecretions by the ſkin and kidneys were increaſed, her appetite and general health were improved, the pain of the toe was relieved, and in the courſe of a week the ulcer aſſumed a more healthy appearance.

She continued to amend ſlowly till the 1ſt of June, after which the ulcer of the toe appeared to become ſtationary. She was ordered on the 14th of that month to take every night a pill, conſiſting of one grain of calomel and one grain of ſulphur of antimony,

timony, the drops being continued as before. Soon after ſhe entered upon this courſe her toe again ſhowed a diſpoſition to heal: but as the progreſs of her recovery was ſlow, ſhe was on the 14th of July confined to a milk diet every ſecond day.

Having examined her on the 11th of Auguſt, it appeared that her health was much improved; that ſhe had a florid complexion, a good appetite, and had increaſed conſiderably in fleſh; that the edges of the ulcer were ſoftened, and that its ſize was ſomewhat diminiſhed. Since that time a ſmall portion of the bone of the toe has exfoliated. At the period when I now write (the 31ſt of October), the ulcer is nearly healed; and as her health is perfectly reſtored, there can be little doubt, that in a few weeks ſhe will be diſmiſſed cured.

CASE XI.

CATHARINE WALLACE, aged twenty-ſeven, was admitted a patient under my care on the 25th of April, 1789.

She had been troubled five months previouſly to her admiſſion with a conſiderable ſwelling of both ancles. Theſe ſwellings were not œdematous, but were covered with large ſcabby eruptions. In other reſpects her health was good. I firſt ordered her pills, conſiſting of calomel, emetic tartar, and opium, to be taken thrice a day. This medicine was continued for a fortnight without any apparent advantage. I therefore, on the 7th of May, preſcribed from four to twelve drops of the ſolution of the muriated barytes twice in the day.

On the 25th of May the diſeaſe of her legs was nearly removed, but ſhe complained of wind in her bowels, and ſaid ſhe had for a few days made rather leſs water than uſual.

The muriated barytes was now omitted, and I preſcribed two ounces of the decoction of bark, half a drachm of the powder, and thirty drops of the ſpiritus nitri dulcis thrice in the day. By theſe remedies her health was in a little time reſtored.

CASE

CASE XII.

JOHN CANTWELL, aged nineteen years and a half, was admitted into the Hoſpital, under the care of Mr. Cline, on the 11th of April, 1789. His complaints were as follow:

Left foot, ancle and left knee ſwelled ſince Chriſtmas; the foot and ancle much inflamed and very painful; the ſwelling of the knee not attended with pain or inflammation; pulſe frequent, appetite bad.

He was ordered to take from four to ten drops of the ſolution of the muriated barytes twice in the day.

In the courſe of a fortnight the ſwelling of the knee was much diminiſhed, but the complaint of the foot and ancle was not relieved; on the contrary, the pain and inflammation ſeemed to be ſomewhat increaſed. His pulſe continued frequent, and little alteration was produced in the ſtate of his general health; the quantity of his urine was not ſenſibly augmented. As the drops however agreed well with him, he was ordered

dered to perſevere in the uſe of them, and two leeches were applied to his foot once a week.

On the 19th of May it appeared that the ſwelling of his knee was removed, that his foot and ancle were ſomewhat diminiſhed in ſize, and that the pain was a good deal relieved. He then took ten drops twice in the day. Soon after this his friends, without Mr. Cline's knowledge or mine, removed him from the Hoſpital, for reaſons which we could not diſcover. It ſeems extremely probable, that if he had perſevered for a ſufficient length of time in the uſe of the medicine, his health would have been reſtored.

The hiſtory of this caſe affords an additional proof of the tendency of inflammation to impede the action of the muriated barytes; for that ſalt appeared at firſt rather to aggravate the inflammatory ſymptoms of the foot and ancle, but the tumor of the knee, which was not inflamed, ſpeedily gave way to it.

CASE

CASE XIII.

MARY EVANS, aged thirty. In the month of November, 1788, ſhe caught the venereal diſeaſe. For this complaint ſhe underwent a regular mercurial courſe, by which the ſymptoms were entirely removed.

Towards the latter end of the month of December, ſhe was attacked with a very painful ſwelling of the left elbow, which deprived her of ſleep, and injured her general health.

This tumor was removed by mercurial pills, and by the application of poultices and fomentations; having omitted the mercury, the ſwelling in a ſhort time returned, and increaſed to a conſiderable ſize; and in the beginning of the month of May, 1789, it broke out into a large painful malignant ulcer. Her general health was now greatly impaired. She was afflicted with a ſlow fever, with a loſs of appetite, and was much emaciated.

Towards the latter end of May I ſaw her in conſultation with Mr. Cline, and preſcribed from four to eight drops of the ſolution of muriated barytes twice in the day.

Soon after the exhibition of this medicine her health and appetite began to improve; her urine was increaſed to thrice its uſual quantity; the pain of the arm abated, and the ulcer aſſumed a better appearance.

She continued to recover until the middle of July. As it was, however, ſuſpected that ſhe had ſtill a venereal taint in her habit, it was deemed proper, at that time, to give her ſmall doſes of mercury in conjunction with the muriated barytes. She was therefore ordered to take every night a bolus conſiſting of five grains of argentum vivum rubbed down with conſerve of roſes, and the ſolution was continued as before, twice in the day, in the quantity of ſix drops, which was the largeſt doſe ſhe could bear without nauſea.

The addition of the mercury ſeemed to accelerate the progreſs of her recovery.

On the 20th of Auguſt it appeared that her general health was perfectly reſtored; that

that the arm was reduced to the natural ſize, and the ulcer entirely healed; and on the 1ſt of September ſhe was diſcharged cured, being deſired to perſevere for ſome time in the uſe of the drops as an out-patient.

CASE XIV.

BARNABY NASH, aged 24, was admitted as a patient under Mr. Cline, on the 15th of May, 1789.

He was ſuddenly attacked on the 24th of the preceding month, with cold ſhiverings, ſucceeded by heat and acute pains in his limbs. The next morning, the pain ſettled in his left knee, which ſwelled to nearly double its natural ſize. His complaints, when he was admitted, were as follow: Health much impaired; giddineſs of head; ſickneſs of ſtomach; loſs of appetite; night ſweats; increaſed heat; thirſt; a ſtrong and frequent pulſe; knee much inflamed, and of a purpliſh red colour. The pain was ſo intenſe as to deprive him of ſleep.

He was ordered to take eight drops of the ſolution of muriated barytes twice in the day, and poultices and fomentations were applied to his knee.

In a ſhort time, the latter applications were changed for a ſoap plaiſter. Soon after he entered upon this courſe, he began to make a greater quantity of water than uſual. He did not appear, however, in other reſpects, to experience any relief during the firſt fortnight. But at the end of that time, the pain of his knee became eaſier; his ſickneſs of ſtomach, thirſt, frequency of pulſe, and giddineſs of head gradually diſappeared, his ſleep and appetite returned.

On the 30th of May, the drops were increaſed to twelve twice in the day, and towards the middle of June, as he had ſtill ſome degree of pain in his knee, he was ordered to take every night a pill, conſiſting of one grain of calomel, and one of precipitated ſulphur of antimony.

Having examined him on the 3d of Auguſt, it appeared that the inflammation and tenderneſs of his knee were removed; that he had no uneaſineſs in it, excepting now and then a little ſhooting pain at night; that

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it was ſtill ſomewhat larger than the other, but was much reduced in ſize; that his pulſe was natural, his health and appetite good, and that he had gentle perſpirations at night on his feet and hands, but did not ſweat ſo profuſely as before he came into the Hoſpital. He continued to make more water than uſual. By the 11th of Auguſt, the ſwelling of his knee was nearly gone, and he had in ſome meaſure recovered the uſe of the limb. On the 17th of September, he was diſmiſſed from the Hoſpital, being deſired to perſevere for ſome time in the uſe of the drops as an Out-patient. He had then no complaint remaining in his knee excepting weakneſs.

There were three other patients in the Hoſpital, to whom I exhibited the muriated barytes, prior to the month of June. The firſt was a man who laboured under the laſt ſtage of a pulmonary conſumption. In this caſe, the medicine did not appear to be productive of any beneficial effects.

The ſecond was a ſcrophulous patient, whoſe complaints upon the exhibition of the ſolution, began ſlowly to abate. He

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ſoon afterwards, however, left the Hoſpital, and I have not heard of him ſince.

The laſt was a boy, who had tumors of the lymphatic glands of the neck, ſome of which had ſuppurated. In this caſe the medicine occaſioned, in the courſe of a week, an evident abatement of the ſymptoms, and the boy appeared to be in a fair way of recovery; but after he had been a fortnight in the Hoſpital, he was attacked with a malignant fever, which proved fatal.

I have thus laid before the Society, an account of all the In-patients in St. Thomas's Hoſpital, to whom I exhibited the muriated barytes, during the months of February, March, April, and May.

By this detail, the Society will be enabled to form a much better judgment, of what may be expected from the medicine, than if I had related a few ſelect caſes only.

It appears, in general, that very little relief was afforded by it in the laſt ſtages of cancer and conſumption. But in all the other caſes in which it was tried, its exhibition was evidently productive of ſalutary effects.

Indeed,

Indeed, in ſome inſtances, it removed diſeaſes, which, I believe, could not have been ſubdued by any other remedy; particularly in ſcrophulous complaints, in which it ſeems to have acted with a degree of force and certainty hitherto unexampled in the records of medicine.

When this remedy was given in a moderate doſe, it appears, in a few inſtances, to have increaſed the ſecretion by the ſkin; in a great variety of caſes it occaſioned an unuſual flow of urine, and it almoſt univerſally improved the appetite and general health.

It ſeems, indeed, to combine within itſelf the qualities of an evacuant, a deobſtruent, and a tonic. I have ſometimes obſerved, that it occaſioned vertigo. This effect I aſcribed in ſome meaſure to the nauſea which it excited. Like every other active medicine, it would, no doubt, if adminiſtered injudiciouſly, be capable of producing deleterious effects.

In a conſiderable doſe, frequently repeated, it would leſſen the appetite, by the conſtant ſickneſs of ſtomach which it would occaſion; and in a ſtill greater doſe, it might

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be productive of much danger, by diſordering the nervous ſyſtem, and by operating violently as an emetic and purgative.

It is proper to remark, that the ſalt which was exhibited in the foregoing caſes previouſly to the beginning of May, did not conſiſt of the muriated barytes in a ſtate of perfect purity.

It contained a ſmall quantity of iron, combined with the muriatic acid.

It may, perhaps, be uncertain, whether the virtues of this compound may not exceed thoſe of the pure muriated barytes. I have, however, ſufficient reaſon to be convinced, that the latter ſubſtance is a very efficacious medicine; becauſe the effects which have ariſen from its exhibition ſince the beginning of May, are not inferior to thoſe produced by the compound ſalt prior to that period.

Indeed, diſeaſes and conſtitutions are ſo much diverſified, that caſes may occur, in which the combination of the ſalts, conſiſting of iron and of terra ponderoſa joined to the muriatic acid, may be attended with more ſalutary effects than either of them could produce ſingly. From the hiſtory of the

the foregoing caſes, there is, I think, reaſon to believe, that the muriated barytes is peculiarly calculated to correct the ſcrophulous diatheſis: but when this diatheſis is accompanied with great debility and with a languid circulation, the efficacy of that ſalt may probably be increaſed by the addition of muriated iron *.

It is moreover proper to obſerve, that moſt of the minerals from which the terra ponderoſa is extracted, have a greater or leſs proportion of lead in their compoſition; ſome of them are contaminated with copper;

* Whether the pure muriated barytes, or the barytic ſalt, mixed with a ſmall proportion of muriated iron, poſſeſſes the greateſt virtue, as a general medicine, can only be decided by attentively comparing the effects which they produce in a variety of ſimilar caſes. And, in order that others may have an opportunity of making this compariſon as well as myſelf, I have given directions that theſe ſalts ſhould be prepared by a very accurate Chymiſt, and ſold by Meſſ. Pike and Crawford, No. 66, Leadenhall-ſtreet. I have alſo given directions, that theſe gentlemen ſhould keep the teſts neceſſary for determining the purity of the barytic ſalt.

It may be proper to remark, that in thoſe caſes in which the compound ſalt was uſed, ſaturated ſolutions of the muriated iron and muriated barytes, were mixed together in the proportion of a drachm of the former to an ounce of the latter.

per; and I have at preſent many ſpecimens of aerated barytes that contain ramifications of miſpikel, which is known to be an ore conſiſting of iron mineralized by arſenic. Hence the utmoſt caution ſhould be uſed to obtain the ſalt perfectly free from an admixture of thoſe ſubſtances. The careleſs preparation of active medicines, for the ſake of avoiding expence and trouble, can ſcarcely be viewed with ſufficient diſapprobation. Although leſs malignant in its nature, it is altogether as dangerous in its conſequences, as the fraudulent practice of adulterating ſalutary remedies with cheap materials, by which their efficacy is impaired, or they are rendered noxious.

As the muriated barytes is ſo liable to be contaminated by ſome of the moſt active metallic ſalts, which if they were mixed with it in a conſiderable quantity, would convert it into a virulent poiſon, I ſhall briefly point out to thoſe who wiſh to purchaſe it for medical purpoſes, the method of determining its purity.

The ſolution of this ſalt in water ſhould be perfectly tranſparent and colourleſs. If it have a greeniſh or yellowiſh colour, it certainly

certainly contains muriated iron, and poſſibly ſome other metallic ſalts. We cannot however infer, from its want of colour alone, that it is perfectly pure; for the ſolution of muriated lead is colourleſs; and I have ſometimes detected a conſiderable quantity of iron in a colourleſs ſolution of muriated barytes.

The preſence of iron may be determined with certainty by means of the Pruſſian alkali; for if the ſolution contain iron, a ſmall quantity of that alkali dropped into it, will occaſion a blue precipitate; but if it contain the muriated barytes alone, the precipitate by the Pruſſian alkali will at firſt have a yellowiſh white caſt, which, after it has ſubſided for ſome time, will become perfectly white.

Lead may be detected by means of a ſolution of liver of ſulphur; for a ſmall quantity of that ſolution being dropped into the liquor which we wiſh to examine, if the latter contain lead, a browniſh precipitate will fall to the bottom, which, after it has ſtood for a conſiderable time, will acquire a dark hue.

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A very effectual method of detecting metallic ſalts, and of freeing the ſolution from all heterogeneous mixtures, is as follows. Let the heavy ſpar be decompoſed according to the proceſs recommended by Scheele and Bergman; and let a portion of the earth thus obtained be diſſolved in pure marine acid. Let a ſeparate portion of the ſame earth be rendered cauſtic by expoſing it in a crucible, to a red heat, and let diſtilled water be poured upon it when cold. A ſmall quantity of this barytic lime water previouſly filtered, being added to the ſolution of the earth in the marine acid, if the mixture remain tranſparent the ſolution is pure; but if not, it is contaminated with earthy or metallic ſalts. In the latter caſe let barytic lime water be ſlowly poured into the ſolution, till no farther precipitation takes place; and to the filtered liquor, let as much marine acid be added as may be neceſſary to ſaturate the ſuperfluous earth.

By this method the ſolution may be rendered perfectly pure; it is, however, a laborious proceſs, and ſhould be conducted with the utmoſt care.

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A gentleman in this place, Mr. Cruikſhank (who aſſiſts in conducting the operations in the Chemical Elaboratory at Woolwich), has diſcovered a very delicate teſt of the preſence of metallic ſalts in ſolutions of muriated barytes.

He makes a ſtream of pure hepatic air paſs through a ſolution of cauſtic volatile alkali in water, till the alkali becomes ſaturated with that fluid. A ſmall quantity of this liquor being added to the ſolution of the muriated barytes, if the mixture remain tranſparent and colourleſs, or if it only depoſit a little white precipitate, the ſolution is pure; but if it acquire a brown, a dark green, or a black colour, it is contaminated with metallic ſalts.

The muriated barytes exhibited in St. Thomas's Hoſpital ſince the month of May 1789, was obtained by the decompoſition of the heavy ſpar. Having procured ſome ſpecimens of a mineral which is ſold at Strontean, in Scotland, under the denomination of aerated barytes, I was in hopes that the ſalt might be formed with leſs difficulty by immediately diſſolving that ſubſtance in the muriatic acid.

It appears however from the following facts, which have been verified by the experiments of my aſſiſtant, Mr. Cruikſhank, as well as by my own, that this mineral really poſſeſſes different properties from the terra ponderoſa of Scheele and Bergman.

1ſt. The ſalt which is obtained from the combination of the Strontean mineral with the muriatic acid, is much more ſoluble in hot water than in cold, and therefore eaſily chryſtallizes by cooling; on the contrary, that which is obtained by the combination of the true terra ponderoſa with the muriatic acid, is very nearly as ſoluble in cold as in hot water, and conſequently chryſtallizes chiefly by evaporation.

2dly. An ounce of diſtilled water, at the temperature of ſeventy, diſſolves nine drachms and fifty grains of the former ſalt, but an equal quantity of water, at the ſame temperature, diſſolves only three drachms and thirty-five grains of the latter.

3dly. The firſt, during its ſolution in water, produces at leaſt fifteen degrees of cold; but the cold ariſing from the ſolution of the laſt in water does not amount to more than five degrees.

4thly.

4thly. A ſolution of the latter ſalt ſhoots by evaporation into thin octagonal plates, two of the oppoſite ſides always conſiderably exceeding the reſt in length; whereas a ſaturated ſolution of the former ſalt, when ſuddenly cooled, ſhoots into long filamentous chryſtals; and when it is cooled ſlowly, it chryſtallizes in hexagonal columns, which have three broad alternating with three narrow ſides, and which terminate in obtuſe trihedral pyramids.

From theſe facts it clearly follows, that the mineral which is ſold at Strontean, for aerated terra ponderoſa, poſſeſſes different qualities from that earth, although at the ſame time it muſt be admitted, that in many particulars they have a very near reſemblance to each other.

As, however, they appear to be different ſubſtances, it was neceſſary to point out ſome of the characters by which they are diſtinguiſhed, leſt the former ſhould be ſubſtituted for the latter as a medicine.

It is probable, indeed, that the Scotch mineral is a new ſpecies of earth which has not hitherto been ſufficiently examined.

The barytic ſalt employed in the foregoing compariſon, was obtained by the decompoſition of a portion of heavy ſpar from the lead mines of Derbyſhire. With a view, however, to avoid every ſource of fallacy, I requeſted Mr. Cruikſhank to inſtitute a comparative trial, between a ſpecimen of the foreign heavy ſpar obtained from the Hartz in Germany, and the ſubſtance that has been vended at Strontean for the aerated terra ponderoſa. All our experiments, however, have concurred to convince us, that the earth which enters into the compoſition of this ſubſtance, has different properties from that which forms the baſis of the heavy ſpar.

Being deſirous of examining the aerated terra ponderoſa, which was analyzed by Dr. Withering, in his excellent paper inſerted in the Philoſophical Tranſactions for the year 1784, I was favoured by Mr. Babington * with a ſpecimen of that ſubſtance; and I have found, agreeably to Dr. Withering's

* This gentleman, I underſtand, has for ſome time entertained a ſuſpicion, that the Scotch mineral is not the true aerated terra ponderoſa.

ing's experiments, that the earth obtained from this mineral perfectly reſembles that which is procured by the decompoſition of the heavy ſpar.

It may be proper to remark, that the ſubſtance diſcovered at Strontean nearly reſembles, in its external appearance, that which has been deſcribed by Dr. Withering. They are both ſemi-tranſparent, and conſiſt of ſlender ſpiculæ, which are cloſely in contact, and which at the ſame time have ſome degree of divergency; but the Strontean mineral has a greeniſh caſt, whereas that deſcribed by Dr. Withering is ſimilar in its appearance to a piece of alum.

It was obſerved by Mr. Cruikſhank, that when a little marine acid was added to a ſaturated ſolution of the muriated barytes in water, a copious precipitation took place, and that the precipitate was quickly redi-ſolved by the addition of water. In reflecting on this phænomenon it appeared, that it muſt have ariſen from one of the two following cauſes, or from the joint operation of both.

1ſt. The affinity of the marine acid to water might be greater than that of the muriated barytes; in which caſe it is mani-

feſt, that the acid would precipitate a portion of the ſalt, in like manner as neutral ſalts are precipitated from water by ſpirit of wine. 2dly. The heavy earth might be capable of combining in different proportions with the marine acid: it might form with that fluid, ſalts reſembling ſoluble tartar and cream of tartar; the latter of which contains an exceſs of acid, and requires to its ſolution a much greater quantity of water than the former.

If the phænomenon aroſe from the laſt of theſe cauſes, it would follow, that the ſalt which was precipitated by the addition of the acid, would be leſs ſoluble in water than that to which an exceſs of acid had not been added. I have found, however, that theſe ſalts do not differ from each other in point of ſolubility. Whence it may be inferred, that the precipitation in queſtion muſt have ariſen from the firſt of the above-mentioned cauſes; that is, from the ſuperior affinity of the marine acid to water.

It is proper to obſerve, that in preparing the medicine exhibited in the foregoing caſes, a given quantity of water was firſt completely ſaturated with the muriated

barytes

barytes, and that to this ſaturated ſolution a little exceſs of acid was afterwards added. The addition of the acid in ſome meaſure deprives it of its bitter taſte, and renders it more grateful to the ſtomach. It is neceſ-ary, however, that the quantity of acid which is thus added ſhould be very ſmall; for otherwiſe, the ſtrength of the ſolution will be diminiſhed by the precipitation of a conſiderable proportion of the ſalt *.

From trials which have been made with dogs it appears, that a very large doſe of muriated barytes would prove fatal. I therefore think it neceſſary to caution thoſe who are unſkilful in medicine, not to tamper with this remedy. It is particularly my earneſt recommendation, that after it begins to excite nauſea, vertigo, or any other diſagreeable ſymptom, the quantity ſhould not be farther augmented, and that no adult ſhould venture to increaſe the doſe beyond eighteen or twenty drops, without the advice of a medical man.

* It is of great importance that a *ſaturated ſolution* ſhould be uſed, in order that the doſe may be adjuſted with ſufficient accuracy. And for the purpoſe of determining it with greater preciſion, the ſolution ſhould be dropped from a ſmall apothecary's phial, that the ſize of the drops may be nearly equal.

XXVI. *A Caſe of Dropſy, in which the Water has been twice drawn off by tapping the Vagina. By Sir* WILLIAM BISHOP, *Knt. Surgeon at Maidſtone in Kent. Communicated in a Letter to* SAMUEL FOART SIMMONS, M.D. F.R.S. *and by him to the Society. Read October* 27, 1789.

To DR. SIMMONS.

DEAR SIR,

IN compliance with your requeſt, I with great pleaſure communicate to you the particulars of the caſe, concerning which you have been pleaſed to inquire.

The patient, (Mrs. Rebecca Jarritt, of this town) is in her thirty-fifth year, and ſhort of ſtature. In the year 1786, a few weeks after the birth of her fifth child, ſhe began to complain of pain in the right ſide of her belly, and ſoon after this ſhe was perceived to grow bigger. Opium, the Pilul. e Scilla, the Digitalis purp. and other remedies, in different forms and doſes, were given, but with no good effect, as the dropſy continued to increaſe.

In

In the year 1787 ſhe firſt perceived a prolapſus vaginæ, which gradually increaſed to the diameter of four inches.

On the 13th of May laſt forty-ſix pints of fluid were taken from her by perforating the vagina with a lancet pointed trocar, as recommended by your ingenious friend Mr. Henry Watſon in the Medical Communications, Vol. i. p. 162.

Meſſ. Olive and Pout, ſurgeons, aſſiſted during the evacuation of the water. The wound of the vagina ſoon healed.

Soon after the operation recourſe was again had to the digitalis purp. ſquills, and other diuretics, but with no better ſucceſs than before; for ſhe filled again ſo faſt, that it was found neceſſary two days ago to repeat the operation. The vagina, which again prolapſed, though not quite ſo much as formerly, was accordingly punctured as before near the former cicatrix, which was now nearly effaced, and fifty-one pints of fluid were drawn off.

A broad belt was put around her to ſupport the parietes of the abdomen during the evacuation, and it was the employment of one perſon to be conſtantly tightening the

the belt; by which precaution ſhe felt no inconvenience from ſtanding, leaning on the back of a chair, during the time the water was running off, and which was nearly an hour. At my requeſt ſhe had conſented to lay on her ſide during the operation; but finding herſelf uneaſy in that poſture, ſhe deſired to be permitted to ſtand up, which ſhe did without being in the leaſt faint.

Only a very few drops of blood followed the puncture of the vagina, and ſhe feels no inconvenience from the operation.

I am, &c.

Maidſtone,
Auguſt 11, 1789.

WILLIAM BISHOP.

XXVII. *Two*

XXVII. *Two Letters from* JOHN COLLINS, *Eſq. of the Iſland of St. Vincent, addreſſed to* BENJAMIN VAUGHAN, *Eſq. of London, on the ſubject of a ſpecies of Angina Maligna, and the Uſe of Capſicum in that and ſeveral other diſeaſes. Communicated by Dr.* ADAIR CRAWFORD. *Read Jan.* 19, 1790.

LETTER I.

To BENJAMIN VAUGHAN, Esq.

DEAR SIR,

IN February of the year 1786, being at the houſe of a gentleman in my neighbourhood, in the Iſland of St. Vincent, I found his little boy, a remarkably fine child, about four years of age, indiſpoſed.

He complained of a heavineſs of the head, which he could ſcarcely keep from the pillow, accompanied with a ſoreneſs of the throat. He had no external heat greater than uſual; and his pulſe, though weak, was but little accelerated. Upon looking into

into the throat, I found the tonſils covered with a thick white ſlough, and the poſterior part of the uvula black and ulcerated. Alarmed at the appaerance of a diſorder, which I concluded to be the true putrid ſore-throat, or angina maligna, I thought it my duty to apprize the parents of the dangerous ſituation of their child, concerning whom they had hitherto been without apprehenſion.

A medical practitioner in my neighbourhood was called in, who ſeeing reaſon to be of my opinion, adminiſtered the bark in large and frequent doſes; and the fauces were deterged with gargles appropriated to the diſorder, which appeared to gain little ground for three or four days. At the end, however, of that time, the patient was ſeized with a convulſive fit, which terminated in a hemiplegia. After this there was no examining ſufficiently into the ſtate of the throat, to aſcertain the progreſs of the ulcerations; which, from the appearance of the lips and tongue, there was room to imagine had increaſed. Bliſters were applied; and while ſome bark was got down by the mouth, much more was injected by glyſters.

It

It is needleſs to enter further into the detail of this complicated diſorder; therefore I ſhall only obſerve, that after a very long and ſevere ſtruggle, through the courſe of two or three months, or more, during which his life was daily deſpaired of, the child, to the admiration of all who had ſeen him, recovered his ſenſes and his ſpeech, though he unhappily preſerves to this day conſiderable remains of the paralyſis.

I mention this caſe, as being the firſt of the true angina maligna that had occurred to me during eighteen years reſidence in the Weſt Indies; though it might in that period have appeared to gentlemen engaged in the practice of phyſic; however I am certain, that I have ſeen ſlighter affections of the throat miſtaken for it.

Soon after the attack of this child, I was informed by the manager of an adjoining eſtate, that he had loſt two little negroes with a ſimilar complaint of the throat; and in a few days one of my own was brought into the hoſpital with the ſame diſorder.

Upon interrogating the mother, I learned that the child had complained the day before

ſore of his throat; but ſo ſlightly, that had it not been for a caution I had circulated among the negroes, ſhe in all probability would not have thought it of conſequence enough to be noticed. She ſaid he ſlept well, and ate with a pretty good appetite, though he ſwallowed with ſome difficulty. His body was regular.

Upon examining the child I found his lips a little redder than uſual, his tongue conſiderably ſo towards the margin, and white and moiſt in the middle; the tonſils had a few aſh-coloured ſpots, and there was a ſmall ulcer, of the ſize of a ſilver penny, on the anterior part of the uvula. The other parts of the throat varied but little from their natural ſtate. The ſubmaxillary glands were enlarged, though not painful to the touch. In other reſpects, the child manifeſted ſo little ſign of indiſpoſition, that a perſon, ignorant of the inſidious nature of the diſorder, might have concluded him to have been in no danger at all; and indeed from ſymptoms ſo mild, I ſuffered myſelf to entertain but little doubt of his recovery. However, the ſequel convinced me that I was miſtaken; and that the diſ-

order

order was leſs tractable than I imagined. After premiſing a few drops of the antimonial wine, which puked him pretty roughly, I had recourſe to the bark, and gave to the quantity of an ounce of it in powder every four and twenty hours. The uvula, tonſils, and fauces, were touched with ſome honey, acidulated with the ſpirit of vitriol, and cleanſed, as well as it was poſſible to do with ſo young a child, with a detergent gargle.

Notwithſtanding theſe remedies the diſeaſe gained ground. After three or four days the tonſils and uvula were deeply ulcerated, and covered with a dark coloured ſlough; and the ulcerations began to invade the back part of the throat. Hitherto the child had been free from fever, his pulſe being almoſt in a natural ſtate, his external heat not perceptibly increaſed, and he ſwallowed with more eaſe than could have been expected from the condition of his throat; though the glands were now ſwollen, and he teſtified uneaſineſs when they were preſſed by the finger: however, he ſtill ſat up and moved as if little had ailed him.

Not

Not having committed to paper any minutes of this caſe, I am unable to ſay, preciſely, on what day the fever began; but I think it was not until the ſixth or ſeventh; when the pulſe beat quicker, and the ſkin grew proportionably more hot, though ſoft and moiſt; and indeed there ſeemed to be a ſpontaneous and deluſive tendency to diaphoreſis from the firſt appearance of fever; which towards the cloſe of the ſcene augmented to profuſe ſweats.

As ſoon as the fever commenced, the diſeaſe made a more rapid progreſs; the reſpiration became laborious, and was performed with a ſhrill rattling noiſe; the mucus on the tongue, particularly towards the root, hardened into a thick cruſt; gangrenous ſloughs, which probably deſcended low into the alimentary canal, now covered all the parts that could be inſpected; the pulſe beat extremely quick and weak; and deglutition, hitherto performed without any conſiderable difficulty, now became troubleſome, though the child ſwallowed whatever was offered. About the twelfth day profuſe cold ſweats broke forth, and reſpiration was effected with extreme difficulty,

difficulty, and with an appearance of ſtrangling, as if a cord had compreſſed the windpipe. About the thirteenth or fourteenth day he died.

In a day or two after the child, whoſe caſe I have related above, had been admitted into the ſick-houſe, a fine young mulatto girl, about ſix or ſeven years old, was brought to me with the ſame complaint. The ſubmaxillary glands were ſwollen, and I ordered a bliſter to the throat, which roſe well, and diſcharged plentifully; but on its removal the part looked white, and afterwards formed a cruſt ſimilar to that at the root of the tongue. In other reſpects the child was treated like the former, taking only a larger quantity of the bark. The fever came on, as before, about the ſixth or ſeventh day, and terminated in death about the thirteenth.

While theſe two children were under treatment, a third, of much about the ſame age, was brought to me with ſimilar ulcerations in the throat, and underwent a like proceſs. A bliſter having been applied, produced the ſame appearance as the former one had done. The ſeries of ſymptoms

lation in the parts immediately affected, might tend to counteract their proneneſs to gangrene. Under this idea I had recourſe to a remedy very well adapted to the purpoſe, which had ſome time before been publiſhed as an effectual one in theſe caſes, in a letter to the printer of the Grenada Gazette, by Mr. Stewart, a gentleman of that iſland, who had formerly been a practitioner of phyſic. The active ingredient of this compoſition is the capſicum, or cayenne pepper. Mr. Stewart's directions for preparing and adminiſtering it are as follows:

"Take two table ſpoonfuls of ſmall red "pepper, or three of the common cayenne "pepper, and two tea ſpoonfuls of fine "ſalt, beat them into a paſte, and then "add to them half a pint of boiling water. "Strain off the liquor when cold, and "add to it half a pint of very ſharp vine-"gar. Let a table ſpoonful of this liquor "be taken every half hour, as a doſe for "an adult; diminiſhing it in proportion "for children."

An opportunity for a trial of this medicine ſoon occurred; another little boy, much

about

about the age of thoſe who had died, being brought to the ſick-houſe with a like complaint in the throat, and ſwellings of the ſubmaxillary glands. I ordered him two tea ſpoonfuls of the mixture, to be repeated every two hours. Negroes being accuſtomed from infancy to the uſe of pepper, he ſwallowed the doſe with leſs uneaſineſs than might have been expected, for the ſpace of four and twenty hours; after which he could, with difficulty, be prevailed on to take any more: the throat, by that time, being almoſt excoriated by the pepper; which I had reaſon to imagine, had been given rather more frequently than I had ordered. The appearances, however, were manifeſtly more promiſing; the ſloughs caſt off, and the throat became perfectly clean. Encouraged by this, I directed the mother to perſiſt in the uſe of the mixture, uſing one tea ſpoonful every two or three hours; which ſhe did, notwithſtanding the reſiſtance of the child; and by theſe means the patient recovered in a few days. None of the untoward ſymptoms ſupervened, nor did he experience a relapſe on diſcontinuing the medicine.

Whilſt this child was under experiment, I was requeſted by a lady of my acquaintance, to ſee a negro girl about ten years old, who was attacked with the ſore throat. Upon my arrival at her houſe, ſhe told me that ſince the departure of her meſſengers, ſhe had, on looking into the throat of her ſon, a little boy of three years old, who had been indiſpoſed for three or four days, diſcovered ulcers; which on examination, I found to be the caſe: the child labouring, at the ſame time, under a difficulty of reſpiration, anxiety, reſtleſsneſs, and ſo great a degree of fever, as convinced me that his diſorder had paſſed ſeveral days unobſerved; and that he was now arrived at that period of it, when his recovery was become extremely doubtful. However, I recommended the pepper mixture, but he could not be prevailed on to take it in any quantity; and not being myſelf, at that time, ſo well aſſured of its effects, I was unwilling to recommend force to be employed. Indeed the child, being froward, took very little either of that, or of any other medicine; and notwithſtanding the endeavours of two

gentlemen

gentlemen of the faculty, whom I deſired might be called to attend him, he died in three or four days.—The negro girl, to whom I had been ſent for, had very large diſcoloured ſloughs and ulcers, which occupied almoſt the whole of the uvula, tonſils, fauces, and back part of the throat; yet ſhe was without fever. She took the pepper infuſion very freely; and notwithſtanding on caſting off the ſloughs, in eight and forty hours, the part appeared in a high ſtate of inflammation, and as raw as a piece of beef, ſhe recovered; though it was three weeks or more before the throat was perfectly healed. In this caſe, however, it ought to be noted, that the bark accompanied the uſe of the pepper; but from ſubſequent experiments, I was led to reſt my hopes of ſucceſs on pepper alone.

The lady's daughter, a little girl a year older than her brother, having frequented him during his illneſs, I repreſented the probability of her being infected with the diſorder, and had her ſent to my houſe. As I ſuſpected, in a day or two, aphthæ appeared on the uvula and tonſils. She had no fever, and ſwallowed, as all the

others had done in the early ſtage of the diſeaſe, without difficulty. I prevailed on her to take ſeveral doſes of the pepper mixture, which operating, as uſual, by rendering the fauces exquiſitely ſenſible, ſhe refuſed to take any more of it; but the ulcerations enlarging, a ſlight fever coming on, accompanied by a wheezing at each reſpiration, and her voice falling ſo low as ſcarcely to be heard, the caſe became preſſing, and every art was uſed to induce her to make uſe of the pepper. When art failed, we had recourſe to force; and by theſe means ſhe recovered from a ſtate which left little room to doubt a fatal iſſue, had the common remedies alone been employed.

Encouraged by the proſperous ſucceſs of theſe experiments, which tended to confirm the aſſurances of the Grenada letter writer, in favour of the capſicum, I was induced to conſider it as a valuable acquiſition; nor had I reaſon to alter my opinion by ſuch caſes as occurred afterwards, though they were pretty numerous on my own eſtate, and on others with which I was connected. I loſt no more

more children. The diſorder appeared from that inſtant, to be diveſted of its malignity; and I had reaſon to lament my not having profited earlier by Mr. Stewart's communication.

The diſorder of the throat, which I have deſcribed above, was not confined to the Iſlands of St. Vincent and Grenada, but extended through the whole range of iſlands in that quarter; exerting its ravages, with more or leſs violence, throughout the greater part of the laſt, and beginning of the preſent year. The principal objects of its attack were children, and other young people; who were, indeed, almoſt its only victims: for though adults were not altogether exempted, very few died of it; and ſuch as I heard of that did were females.

Notwithſtanding the ulcerated ſore throat has of late years abated much of that malignity, with which it firſt made its appearance in this country, it is ſtill in the recollection of many, that it has been a very formidable diſeaſe; againſt which the bark, in numerous caſes, was adminiſtered in vain.

Should

Should it therefore, at any future period, reſume its attack with ſuch violence, as to reſiſt other approved remedies of milder action, it may certainly be worth while to reſort to the capſicum, as an auxiliary at leaſt.

I hope it will not be inferred from what I have ſaid above, that I mean to recommend the pepper as an infallible remedy in putrid affections of the throat. My experience of its power, though encouraging enough, ſo far as it hath gone, is by much too limited to warrant ſuch a preſumption. I mean only to exhibit the ſingular ſucceſs that attended it, in a ſpecies of the ſore throat, which, without it, had proved extremely mortal. But then that ſpecies of the diſorder was a very particular one; mild in its invaſion; ſlow in its progreſs; in its early ſtage unaccompanied with fever; and in thoſe caſes that occurred to me totally without efflorescence: beſides it was on the firſt appearance of the diſeaſe, before the fever came on, that the medicine was adminiſtered; and ſo far I think it my duty to bear teſtimony to its effects; leaving it to gentlemen of the profeſſion, who are

engaged

engaged in purſuits of that nature, and more competent to the enquiry, to aſcertain by farther experiments, what advantages are to be expected from it, as well in that, as in other diſorders of the human frame. There is, ſurely, reaſon to imagine, that a ſubject endowed with ſuch palpable powers, may alſo poſſeſs medical efficiency. We have the evidence of ſenſe for its activity; and ample proof of its innocence, when taken in the largeſt quantities.—But it is not from ſpeculations alone that gentlemen are invited to the inquiry, for I am informed that Dr. Bancroft, the ingenious author of the Hiſtory of Guiana, has been in the habit both of giving and taking it, with the utmoſt ſucceſs, in the intermittent fevers of that colony; and I have known it uſed for the ſuppreſſion of vomitings, which occur in the putrid fever of the iſland; a purpoſe which with due precaution, it appears well calculated to anſwer; as I never knew it to be rejected from the ſtomach when employed for the ſore throat. It is alſo in common uſe, externally, for deſtroying the putrid ulcers, to which negroes are ſo ſubject;

ject; and I have heard from ſenſible French negroes, that pepper has been long employed by them in affections of the throat. It is not improbable that Mr. Stewart, though he has the merit attributed to him of having firſt made it known to us, may have taken his hint from that quarter.

Objections may, poſſibly, be made to the introduction of this medicine into practice, from the ſeverity with which it acts on the firſt paſſages; but that is by no means ſo great, as perſons inexperienced in its effects may imagine.

Though I conformed implicitly to Mr. Stewart's directions, for the compoſition and adminiſtration of the medicine, in order to bring it to a more deciſive teſt, I was not ſatisfied of the neceſſity of giving it in ſuch large doſes; and indeed in ſome of the later caſes which fell under my treatment, I made uſe of the infuſion more ſparingly, yet with undiminiſhed effect.

It ought to be obſerved, that the infuſion when firſt ſwallowed, excited a kind of convulſive re-action of the ſtomach and œſophagus, attended with a great heat in thoſe parts, and a greater ſtill in the mouth and

and fauces, which gradually ſubſided, leaving an univerſal glow over the whole body, though it occaſioned but a ſlight acceleration of the pulſe. Although the heat deſcended through the whole alimentary canal, and occaſioned a little uneaſineſs at the extremity of the rectum on the patient's going to ſtool, it produced no other bad effect, even in a lady whoſe bowels were remarkably tender and ſubject to diſorder.

When the green pepper was wanting I uſed the dry powder which I had by me.

On looking into Dr. Fothergill's Paper on the putrid ſore-throat, I find the following note from Mercatus, which I beg leave to tranſcribe, as it ſhows that the fever did not always appear with violence in the firſt ſtage of the diſorder. "Nec "multum fidere oportet, ſi febris mox non "apparuit, aut ſuccreſcat; nam ſæpe citius "ſuffocat affectio, quam cauſa ſuccendatur, "ac non raro malignitas humoris cor-"rumpit ſpiritus et mortem accelerat, ſine "eo quod febris ſuccendatur. Mercat. "conſult. p. 137. *.

There

* See Elliot's Collection of Dr. Fothergill's Works, 8vo. London, 1781, p. 181.

There is likewiſe a paſſage extracted from Heredia, and ſubjoined by way of note to page 22 of Elliot's edition of Dr. Fothergill's Works, that confirms my remark on the deceitful nature of this diſorder; which being pretty long I ſhall forbear to tranſcribe it here, and ſhall only obſerve upon it, that the diſorder ſometimes proved fatal, even after all viſible appearances of ulceration had vaniſhed from the mouth, in conſequence of the ulcers ſtill exiſting and deſcending through the gullet and aſpera arteria into the ſtomach and lungs. In theſe caſes there ſeems to be a peculiar propriety in uſing the infuſion of capſicum; as gargles, which are thought ſo eſſential, cannot then extend their effect to the ſeat of the diſorder.

I find alſo, that in the opinion of thoſe Spaniſh phyſicians, the morbid affection of the fauces was the original diſeaſe, and that the fever was ſymptomatic only; in conſequence of which they directed their principal efforts to thoſe parts, and reſted their hopes of ſucceſs almoſt entirely on the action of topical detergents. Heredia recommends the ſtrongeſt and moſt cauſtic, ſuch as copperas,

copperas, verdigriſe, the ſpirit of ſalt undiluted, and even the actual cautery; and though Mercatus diſapproves the ſeverity of that practice, he adviſes a ſcarification of the part affected. Fothergill not only approves of gently ſtimulating aromatic gargles, thinking that much depends on their uſe, but alſo authorizes the ſloughs being touched with the mel egyptiacum, or the throat to be gargled with a mixture into which it enters as an ingredient. By the bye, it appears a little extraordinary that this eminent practitioner, though he admits the diſeaſe to be of a putrid nature, ſhould have inſiſted ſo little on the uſe of the bark, until the publication of the *fifth* edition of his work, where it is mentioned in the preface in high terms of approbation.

I ſuſpect, though I have not the means of reſorting to the original authorities to verify my ſuſpicions, that there was a much greater affinity between the phænomena of the diſeaſe in Spain, and that which occurred in the Weſt Indies, than between the latter and the one deſcribed by Britiſh authors; and conſidering the analogy between

tween the climates, it would not be ſurpriſing were that really the caſe.

I have thus complied, my dear Sir, with your requeſt, in ſtating my obſervations on the capſicum when employed in the ulcerated ſore-throat, leaving you to make ſuch uſe of them as you may think proper.

Oct. 22, 1787.

LETTER II.

SINCE my former letter, a viſit to the Weſt-Indies has enabled me to collect ſome additional matter, reſpecting the uſe of the capſicum in the putrid ſore throat.

I find it has ſometimes been employed without the ſucceſs ſtated to have accompanied my experiments. My valuable friend, Dr. Clifton, of St. Chriſtopher's, had in particular the misfortune to loſe three children within a few days of each other, though he gave the capſicum very freely; but it is to be obſerved, that theſe caſes were different from any that occurred to me. They began with

with uncommon violence, and terminated their career in two or three days. Indeed the diſorder appears to have acquired at that period, an inveterate degree of malignity: for there was ſcarcely a family in the iſland, but what had to lament the privation of one or more of its number, either by that, or ſome other diſorder of the putrid kind.

On the other hand, I find in Dr. Duncan's Medical Commentaries for the year 1787, a letter from Mr. James Stephens, a medical practitioner of the ſame iſland of St. Chriſtopher, on this ſubject, which accords better with my obſervations, though the appearances of the diſorder in which he gave it, varied ſomewhat from what I ſaw. He ſays he gave it to four hundred patients with the happieſt ſucceſs. Similar information I received from ſeveral other gentlemen who had tried it. But the leſs happy experience of my friend, ſtill leaves a doubt on my mind, of its effect in the moſt acute caſes.

I am, dear SIR,

Your faithful humble ſervant,

JOHN COLLINS.

Brompton,
January 16, 1790.

XXVIII. *Account of an Exfoliation of the internal Surface of the Tibia, removed by the Application of the Trephine. By Mr.* THOMAS WHATELY, *Surgeon. Communicated by* JOHN SIMS, M. D. *Read February* 2, 1790.

MR. COTTERELL, jeweller at Derby, aged twenty-eight years, and of a ſtrong muſcular habit, was attacked in June, 1779, with a ſwelling of his right leg. This ſwelling, which in two days almoſt entirely ſubſided, leaving only a ſlight inflammation upon the ſkin over the middle of the tibia, was not attended with pain.

Eight or nine days afterwards he was ſeized with acute pain oppoſite to the inflamed part, which afflicted him during four or five months, and much more ſeverely in the night than in the day-time. At length there appeared a ſmall ulcer in the diſcoloured part. It was at this time I firſt ſaw him, and upon introducing a probe, found it to paſs to a conſiderable depth within the cavity of the bone.

A venereal

A venereal taint was ſuſpected, eſpecially as he was known to have had that diſeaſe ſome time before. I therefore put him under a mercurial courſe, in the expectation that the active powers of the body would be exerted to reſtore the limb, whenever the virus that occaſioned the diſeaſe ſhould be deſtroyed.

Under this courſe the pain ſoon ceaſed, and on examining the wound ſome time afterwards, I plainly felt a looſe piece of bone lying in a bed of granulations within the cavity of the tibia. Concluding that it was an exfoliation of the internal ſurface, and that the ſeparated piece was larger than the opening in the bone, I applied a cauſtic to the ſkin around the wound. On the ſeparation of the ſlough the tibia was laid bare to the ſize of a half crown, the ulcerated hole in the bone being in the centre. Through this hole, with a pair of fine forceps, I took hold of the exfoliated piece, and could move it upwards and downwards, but could not extract it. In order to enlarge the opening, which nature had made in the bone, with the trephine, there being no hold for the center pin to enable me to

ſame part of the tibia as before; and, when the ſloughs were ſeparated, to apply the trephine a third time taking in a complete circle. I found the ſurface of the bone, on ſawing, ſomewhat ſofter, and the pain much greater than at the ſecond operation. The ſhell which came away with the ſaw was rather thicker than the laſt, but had the ſame pulpy vaſcular maſs under it. Having again taken away all the prominent parts of the tibia, ſo as to make a complete aud uninterrupted opening for the exfoliated piece, I took it out with a pair of forceps without much pain, though on all ſides ſurrounded with granulations. It was two inches long, as thick as a common gooſe quill, and very hard.

In a ſhort time the wound filled with granulations, which, as it healed, were gradually formed into bone; and in about two months, ſome ſmall pieces of the diſturbed ſound bone having been exfoliated, the whole wound was perfectly healed.

This perſon's diſeaſe was manifeſtly an internal exfoliation of the tibia. Mr. Cheſelden, ſpeaking of it, p. 40. of his Anatomy, ſays, "In one caſe where the

"matter

" matter had ſufficient diſcharge by an ex-
" ternal caries formed together with the
" internal one, all the internal hard part of
" the bone, which contains the medulla,
" was ſeparated from the reſt, and being
" drawn out through the place where the
" external caries made a vent, the patient
" received a perfect cure. In another caſe
" of this kind, where the internal part
" which contains the medulla was alſo ſe-
" parated from the reſt; and there being
" holes through which the matter was diſ-
" charged, but none ſufficient to take out
" the exfoliated bone, the matter continued
" to flow in great quantities till it deſtroyed
" the patient; and, poſſibly, if this caſe
" had been rightly known, the internal ex-
" foliated piece might have been taken out,
" and the patient cured."

From a review of the treatment of the preſent caſe, it appears, that at the firſt operation the tibia was of its uſual hardneſs; but when freſh violence was offered, and a part of its ſubſtance was removed, nature ſeemed active to repair the injury, and in a few days its texture was conſiderably altered, inflammation took place, and parts which were

before hard and inſenſible, and apparently impervious to blood-veſſels, became extremely vaſcular and nervous: the bony earth was then gradually abſorbed *; but when the irritating part was removed from the midſt of theſe tender granulations, new depoſitions of bony matter were made, and the cure was eaſily effected.

Perhaps it would have been better to have made as many perforations with the trephine at the firſt operation, as might have been found neceſſary to remove the exfoliated piece; by which the pain of repeating the operation, when the parts became more ſenſible, would have been avoided. The only objection is the great hardneſs of the bone, and the difficulty of getting away the pieces; but if they could not have been removed, the event of this caſe ſhows, that the inflammation excited by the operation would have ſoon deſtroyed the hard texture of the bony part, and have gradually removed thoſe parts which no moderate force could do ſuddenly. Upon the whole, the advantage of the operation is

* The deſervedly eminent and ingenious Mr. J. Hunter, firſt ſuggeſted the idea of the lymphatics abſorbing bone.

is evident, for without it the patient would probably have had a perpetual ulcer, and perhaps the continued draining might, as in the caſe recorded by Cheſelden, have at laſt terminated fatally.

Since the preceding caſe occurred, two works relative to this diſeaſe have been publiſhed in France; one of them is entitled "Obſervations ſur la Maladie d'Os, connue ſous le nom deNecroſe," by M. David; and the other, "Obſervations ſur le Necroſe," by M. Bouſſelin.

Abſtracts of theſe two works are given in the London Medical Journal *. In both we meet with much judicious practical information; but I am of opinion, that neither of theſe authors has diſtinguiſhed the diſeaſe in queſtion in a manner ſufficiently accurate. If the attack is made on the external ſurface of a bone only, the exfoliated or deadened part will of courſe be external; if on the ſubſtance of the bone, the ſeparated part will be to the extent of that affection; and if on the internal ſurface only, the ſeparation will of courſe be internal, and within its own cavity.

* Vol. iii. p. 369. and Vol. vii. p. 263.

vity. It appears to me from a careful perusal of the cases from these French authors, that the 1st of Monsr. Bousselin's is the only one which describes an exfoliation of the internal surface of a cylindrical bone; the others being either of the external surface or substance of the bone itself, to a greater or less extent; some with, and some without the adventitious supply of regenerated bone. The first is a disease well known, yet by no means common; the two latter * are very frequently to be met with; the first is of very difficult, the latter of much more easy cure. I think therefore that these gentlemen should not have classed these diseases together, without noticing the particular varieties of each.

The cases related by Mr. Cheselden, and to which I have already referred, were exfoliations of the internal surface of the tibia; but the operation at that time had not been attempted. As I do not intend in this place to enter into a minute account of these diseases,

* I have given an account of the cure of two remarkable cases of exfoliations of the substance of the tibia, attended with regenerated bone, in the first volume of the Memoirs of the Medical Society.

caſes, or the method of treating them, I would only with due deference juſt hint, that it is of ſome importance in our views of cure, to aſcertain as nearly as can be the ſituation and extent of the exfoliated piece *. If it is a portion of the external ſurface only, without any adventitious bone ſurrounding or binding it down, which is by far the moſt common; the forceps will in general be ſufficient to extract the pieces through the external ulcerated holes, either with or without dilatation, or the cauſtic. If a portion of the ſubſtance of the bone is ſeparated and bound down by adventitious bone, which nature in this caſe provides to ſupply the defect, it is beſt firſt to apply the cauſtic to the diſeaſed integuments, and then to remove as much of the adventitious bone, by any common inſtrument, as prevented the extraction of the exfoliated piece

* Where nature has performed her work of exfoliation, and removed the diſeaſed or deadened part of a bone from the ſound, it may almoſt always be known by introducing a probe, and making a ſteady preſſure upon the ſurface of the bone, in doing which the exfoliated piece will ſenſibly give way to the probe, as there are granulations, and a forming perioſteum, between the ſound bone and exfoliated piece.

piece by the forceps, which may in general be done very eaſily, as it has not much firmneſs. But if the external ſurface is not diſeaſed, and an ulcerated hole is found to paſs into the cancelli, where a looſe exfoliated piece is felt, of larger extent than the external opening, we muſt work ſteadily with the trephine, after having prepared the part by the cauſtic, or the knife, through the ſound and natural ſubſtance of the bone, by as many perforations as are ſufficient to make an opening equal to the extraction of the exfoliated piece; and here the natural hardneſs of the ſound bone, as is particularly noticed by Monſ. Bouſſelin, in his firſt caſe, correſponds very much, as well as in other circumſtances, with that of the caſe I have related; but the perſeverance neceſſary to complete this opening, and, in conſequence, the removal of the irritating bone from within the cancelli, ſo different from that of the external exfoliation, can be known only to thoſe who have performed the operation.

Old Jewry,
Nov. 11, 1789.

XXVIII.

XXIX. *Some account of the invention and uſe of the Lever of Roonhuyſen.* By ROBERT BLAND, M. D. *Read Feb.* 16, 1790.

ALTHOUGH it is now near forty years ſince an account of the vectis, or lever of Roonhuyſen was publiſhed, yet the knowledge of it ſeems ſtill to be confined almoſt to Holland; the profeſſors of the reſt of Europe, pre-occupied by a rival inſtrument, ſeem either to have neglected it, or to have mentioned it only to degrade it, and to ſhow its inferiority to the forceps.

Having for ten or twelve years paſt, conſtantly uſed the Lever with ſucceſs, in difficult and laborious births, and being perſuaded that it may be employed with greater facility and advantage than the forceps, I have, in order to contribute towards extending the knowledge of ſo uſeful an inſtrument, collected whatever I could find, relative to the invention of it, and the alterations that have been made at different periods, both in the inſtrument itſelf, and the manner of applying it; with the ſucceſs that has attended

tended the uſe of it. And to render theſe obſervations more intereſting, I have given a ſhort account of the ſtate of midwifery in the earlier periods, with the ſeveral expedients that have been deviſed, to aſſiſt in difficult labours; and which led, as it were, ſtep by ſtep, to the invention of the forceps and lever.

This, I flatter myſelf, will prove particularly acceptable to practitioners in the country, and to all perſons whoſe ſituation does not admit an extenſive practice; and who cannot therefore be ſuppoſed expert, in uſing ſo difficult an inſtrument as the forceps. It may, I hope, ſave them from the diſtreſſing alternative, of either ſometimes prematurely having recourſe to the perforator and crotchet; or, if averſe to the uſe of theſe inſtruments, and thence induced to truſt too long to the efforts of nature, of finding their patients fall a ſacrifice to fever and inflammation, or precipitated into diſeaſes ſo diſguſting and even dreadful, that they would willingly exchange them for death itſelf. Perhaps it may be thought, that the publication of Meſſrs. Viſcher and Van der Poll, and the later one of profeſſor Camper, upon the

the ſubject, are ſufficient to enable practitioners to form a proper idea of the inſtrument; and it may even be argued, that if the lever is ſo valuable, as it is here repreſented, it muſt, long ere this, have obtained the reputation it deſerved. Not to inſiſt how ſlowly foreign publications are diffuſed here, which is frequently complained of, I ſhall obſerve, that the firſt publiſhers*, never having practiſed midwifery, they were conſtrained to give ſuch an account of the lever, as they could collect from the looſe papers of Mr. De Bruyn†; and profeſſor Camper, when he wrote, had had ſo few opportunities of uſing the inſtrument, that he even miſtook the part of the head‡ of the child upon which it acted; and had ſo ſlightly conſidered the ſubject, that in his concluſion, he gives an opinion of the lever, by no means ſo favourable, as he was warranted by the facts he had produced: of which more particular notice will be taken by and by.

The

* Mem. de l'Acad. de Chirurg. T. v. p. 732.

† Herbiniaux, Traité ſur divers accouch. lab. p. 19.

‡ Ibid. p. 111, &c.

The moſt frequent cauſe of difficult and laborious labour, is ſome diſproportion between the head of the child, and the capacity of the pelvis through which it is to paſs. This may ariſe from a fault in the conſtruction of the mother, or of the child; from the pelvis of the woman being too ſmall or diſtorted, or from the head of the child being preternaturally large or unuſually oſſified. The wrong preſentation of the head of the child, may alſo occaſion a ſimilar difficulty; as when the largeſt diameter of the head, is turned to the ſmalleſt diameter of the pelvis.

To theſe cauſes it has been uſual to add, great imbecility or weakneſs in the mother, incapacitating her from exerting herſelf for the purpoſe of excluding the fœtus; and the weakneſs and death of the child, whoſe exertions were thought not leſs neceſſary than thoſe of the mother to expedite the birth *. But a juſter knowledge of anatomy and

* "Quantopere autem fœtus accelerando et facilitando "partui conferat, in oviparorum præcipue ortu palam fit; "conſtat enim fœtum ipſum non autem matrem corticem "effringere. Undè etiam veriſimile eſt, in vivi parorum "quoque partu, præcipuam naſcendi cauſam fœtui deberi. Molimini,

phyſiology, with greater attention to the phænomena of labour have taught us that the efforts of the woman, in parturition, are no otherwiſe occaſioned by the child than ſo far as it acts as a ſtimulus to put the uterus in motion; which a dead child, or any other inert maſs, will equally effect, as we ſee happen in the expulſion of the placenta, or what is called a mola. When a child after death becomes putrid, and thence enormouſly ſwelled by the included and rarefied air, the birth will be impeded; but the difficulty will ariſe, not from the death of the child, but from its increaſed bulk.

That the weakneſs of the woman may in ſome degree tend to retard labour, cannot be denied; but that its influence is not very conſiderable is plain from hence; women in the laſt ſtage

" Molimini, inquam, ejus, non autem ponderi, ut Fa-
" bricius voluit." And a little further on, " Ipſe fœtus
" prono capite uteri clauſtra aggreditur, eademque pro-
" priis viribus recludit, et in lucem eluctatur." Op. Guliel. Harveii, p. 555. But as the ſmooth, poliſhed, and inſenſible egg, which cannot contribute to its own birth, is expelled by the action of the abdominal muſcles, and uterine fibres of the hen or female bird alone, ſo it is reaſonable to conclude, that the fœtuſes of viviparous animals, are excluded by the powers of the ſame parts.

ſtage of conſumption, or on the point of dying from fever, frequently expel their children, with as great or even greater facility, than they had been uſed to do in perfect health; of which I have been witneſs ſeveral times. Nay, ſometimes the child has been found to be expelled from the uterus, after the apparent death of the woman *.

Although the ancients appear to have had no diſtinct notion of an ill-formed or diſtorted pelvis

* For inſtances of this ſort vide Harveii Oper. p. 556. and Nimmanus de vita fœtus in Utero, p. 28, et ſeq. A ſimilar fact occurred lately to Mr. Mainwaring, of the Strand, in the caſe of a woman who, at her full time, was ſeized with ſymptoms of inflammation of the ſtomach, of which ſhe died in a few hours. As her pains were very ſevere, recurred at intervals, and reſembled labour pains, Mr. Mainwaring, about ſix or ſeven hours before her death, examined per vaginam to find the ſtate of the os uteri, which was then undilated. At the time of her death, and for ſome hours after, when the body was put into a coffin, no part of the child appeared without the vagina; but on the following day, when he was about to open the abdomen of the woman, the body of the child was found expelled, the head only remaining in the vagina.

Mr. Mainwaring imagined, that the expanſion of the air, with which the bowels of the woman were diſtended to an uncommon degree, contributed in this caſe to the expulſion of the fœtus.

pelvis, yet they could not help obſerving that the head of the child was frequently almoſt immoveably fixed there. This they attributed to the too great rigidity of the ligaments that connect the oſſa innominata to the os ſacrum, and to each other, which bones, they imagined, ſeparated during labour, when in a natural ſtate, to allow an eaſier paſſage to the child. Hence their frequent uſe of baths, fomentations, and ointments, with which they hoped to ſoften the ligaments; and when theſe were found inſufficient, they endeavoured by the means of inſtruments, to force them aſunder.*

Paré attributes a great part of the pain women ſuffer in childbirth, to the ſeparation of the ilia from the ſacrum; and aſſerts, that in ſeveral women he had opened, who had died ſoon after being delivered, he found the ilia ſeparated from the ſacrum the ſpace of a fingers breadth.†

Dr. Harvey alſo imagined the bones of the pelvis were looſened prior to labour‡. But

* Vide Hieron. Mercurialis Prælect. de Morbis Mulier. Lib. ii. cap. 3. in which he has collected almoſt every thing the earlier writers have ſaid on this ſubject.

† Vid. Paré de la generation de l'homme. ch. 13.

‡ Vide Harveii opera, p. 455.

Harvey, however eminent in other reſpects, is not good authority in this caſe, for although he appears to have attended ſometimes in caſes of parturition, yet neither the manners of the times in which he lived, which did not yet, in this country, allow ſurgeons or phyſicians, except in rare caſes, to aſſiſt women in childbirth, nor his peculiar avocations, permitted him to do this to ſuch an extent as to add much to his knowledge. Accordingly we find the greater part of his obſervations on this ſtate, were derived from his diſſections of brutes; in many ſpecies of which, this ſeparation of the bones of the pelvis, is ſaid to be general. "A "ſtrong preſumptive argument, Dr. Den- "man ſays, in favour of the ſeparation of "theſe bones, has been drawn from quad- "rupedes. In theſe the ligaments which "paſs from the obtuſe proceſſes of the iſchia "to the ſacrum, on which the firmneſs of the "junction of the bones very much depends; "and which at all other times reſiſt any "impreſſion attempted to be made upon "them, are for ſeveral days previous to "parturition, gradually deprived of their "ſtrength, and the animal walks in ſuch a "manner,

" manner, as would incline us to believe " could only be produced by a ſeparation " of the bones of the pelvis." Indroduct. to Midw. p. 16. But this obſervation ſeems to prove the reverſe of what it is intended to ſupport. For if ſo conſiderable an effect is produced by the relaxation of theſe ligaments in quadrupeds, whoſe pelviſes ſupport only half of their weight, a much greater degree of weakneſs and lameneſs muſt be produced, from a ſimilar cauſe in women, the entire weight of whoſe bodies reſts upon the bones that form that cavity.

It is worthy of notice, that Harvey attributes the enlargement of the pelvis to the ſeparation of the pubes and coccyx, but Paré thinks this effect is produced by the divulſion of the ilia from the ſacrum alone.

Mauriceau, whoſe experience gives weight and authority to his opinion, and who appears to have taken great pains to inveſtigate this matter, has, upon the cleareſt evidence, demonſtrated, that ſuch a ſeparation of the bones of the pelvis, does not take place in a natural labour*.

* " Car ſi cela arrivoit, les femmes ne pouroient pas " ſe tenir debout, ainſi que pluſieurs font, incontinent après " être

It was uſual in the Hotel Dieu at Paris, he ſays, to deliver the women in an apartment appropriated to that purpoſe; immediately after being delivered, they were conducted, walking, to another apartment, frequently at a conſiderable diſtance from that in which they were delivered; but this, he ſays, could not have been done, if the bones of the pelvis had been ſeparated during labour. He adds,

« être accouchées; d'autant qu' ils ſervent d' appuy a tous « les autres parties du corps. J'ai remarqué cela autre- « fois dans l' Hotel Dieu de Paris, en un grand nombre « d'accouchmens que j' y ai faits. Quand les femmes « commencent d' etre en travail, elles vont en une cham- « bre qu'elles appellent le chauffoy, auquel on les accouche « toutes ſur un petit lit, fort bas, ou on les met devant le « feu; puis auſſitot que leur beſogne eſt faite, on les mene « coucher dans leur lit, qui eſt quelque fois aſſez eloigné « de cette chambre, auquell elles vont toutes fort bien à « pied, &c." Traité des Malad. des femmes groſſes. Tom. i. L. ii. ch. i. p. 210.

Further confirmation of Mauriceau's opinion may be derived from what is related of, « the women of the Galla, (a nation on the confines of Abyſſinia) who « are ſaid to « be very fruitful: and who do not confine themſelves even « a day after labour, but waſh and return to their work im- « mediately; » (See Bruce's Travels to diſcover the Source of the Nile., Vol. ii. p. 221.) and from what is frequently done here, by unfortunate young women, who after having concealed their pregnancy, have been known to reſume their occupations ſoon after delivery.

adds, that although he had often examined the ſymphyſis of the pubis while the head of the child was paſſing, he never could diſcern any ſeparation; and although he had opened, or been preſent at the diſſection of many women who had died ſoon after being delivered, he had always found the bones of the pelvis ſo firmly united, that the pubes could with difficulty be ſeparated by a ſharp and ſtrong knife. Sometimes, he obſerves, the coccyx is forced to recede a little, which when it happens, ſubjects the woman to conſiderable pain.

Baudelocque maintains the ſame opinion, and ſhows, that in a well-formed pelvis, ſuch a ſeparation would be uſeleſs, in a deformed one inſufficient, in both miſchievous*.

To theſe authorities and arguments, may be added the following: If a proceſs towards ſoftening the ligaments that connect the bones of the pelvis, were going on during

* " Ayant demontré ſon inutilité dans les femmes bien " conformées, ſon inſuffiſance dans celles donc le baſſin " eſt vicié, et ſes inconveniens dans les unes et dans les " autres." *L'Art des Accouch.* V. ii. par. 1911. For his arguments he refers to his Theſis, " *An in partu,* " *propter anguſtiam pelvis impoſſibili, Symphyſis oſſium pubis ſe-* " *canda,*" which I have not ſeen.

the latter part of the time of geſtation, women would conſtantly move with more difficulty as they approach the end of their term, as quadrupeds are obſerved to do. But this, although it happens to ſome women, who live too ſedentary a life, is ſo far from being generally the caſe, that it is even common for them to walk with more agility, and greater eaſe, the laſt ten or twelve days, than they had done for ſome weeks before. Alſo, in all very tedious and laborious births, occaſioned by a diſproportion between the head of the child and the capacity of the pelvis, particularly in young ſubjects, and with their firſt children, if the ligaments were previouſly ſoftened, a conſiderable diſunion of theſe bones muſt inevitably take place. But the facility with which ſuch women frequently recover, proves that this does not happen.

I have been led to this digreſſion by conſidering the miſchievous influence that the doctrine of the ſpontaneous ſeparation of the bones of the pelvis has had upon the practice of midwifery in all ages. To this muſt be attributed the invention of the ſpeculum matricis, and other ſimilar inſtruments, which continued to be uſed long after the time of Harvey,

Harvey *, and to this alſo may be aſcribed the operation of dividing the ſymphyſis of the pubis, ſo much celebrated upon the continent; but which has been found ſo little to deſerve the extravagant eulogiums that have been beſtowed upon it, and in almoſt every caſe, has proved ſo miſchievous, that I think it will hardly be repeated †.

When the impediments to the birth of the child were ſo obſtinate that they could not be overcome by the means before recited, nor by the other rude methods ‡ the ancients were accuſtomed to put in practice, the ſurgeon, who was never called until the midwife had exhauſted all her art, proceeded to extract the

* Groenevelt was called to the aſſiſtance of a woman in the year 1679, labouring under a ſuppreſſion of urine, who had been delivered, he ſays, by Dr. Chamberlen, "Inſtrumento matricis ſpeculo dicto adhibito." See his work entitled *Tutus Cantharidum in medicina uſus internus.* p. 129.

† Dr. Oſborne, in an ingenious Eſſay on laborious parturition publiſhed in 1783, has given an hiſtorical narrative of the operation, with an analyſis of the caſes in which it has been performed. To that Eſſay, and to the labours of Baudelocque in France, it may be attributed, that the reputation of the operation ſeems for ſome time paſt to have been on the decline.

‡ Vide Spachii Harm. Gynæc. p. 11

the child with ſtrong pincers or crotchets *. But when the preſſure which the child had ſuffered in the paſſage, had not been conſiderable

* I know that Avicenna commends the uſe of a fillet and a kind of forceps, for extracting children when detained by the ſtraitneſs of the pelvis. " Si fœtus ita magnus ſit, (ſays Mercurialis,) ut ſola magnitudo difficultatem faciat, " Avicenna dat quaſdam regulas ſervandas; prima eſt, ut " obſtetrix tentet manibus educere, ſi vero manibus non " poteſt, faſcia circumligetur fœtus corpus, atque ita paulatim " educatur. Si vero hoc non ſuccedat, habent obſtetrices " quædam tenacula quibus circumligant pannos, ne læ- " dant vel offendant fœtum iiſque educant." Prælect. p. 67. Theſe tenacula, of which we have no deſcription, were probably then well known, but we may conclude they were of no great utility, as we find no farther account of them, or of inſtruments of that kind, from the time of Avicenna, whom Freind places about 980. until *Rueff*, ſurgeon at *Zurich* publiſhed his book *De conceptione et generatione hominis*, in the year 1554; in which, treating of delivery by inſtruments, p. 30. he ſays, " Eo " autem modo, ſcil. uſu apertorii vel ſpeculi matricis, di- " ducto matricis orificio, obſtetrix manibus infantem le- " niter apprehendat, et ſi poſſibile eſt, cum ſecundis educat. " Si fiat autem ut mortuus infans propter magnitudinem " ſuam prædicto modo educi nequeat, vel ſecundæ manibus " prehendi et educi non poſſint, curandum tunc ut ſequen- " tibus inſtrumentis quicquid id fuerit, ſine matris nocum- " ento, comprehendatur et prudenti cura educatur." He then deſcribes two pair of forceps, one armed with teeth, which he calls *Roſtrum anatis*, the other without teeth, his *forceps longa et terſa*, with either of which you are to proceed

ſiderable, it frequently happened, that it was born alive, although torn and mutilated by the inſtruments. This led at length to the trial of other means, by which it was hoped, in many of theſe caſes, the obſtacles to the delivery might be overcome, without injuring the child. One of the methods recommended for this purpoſe was, for the operator to paſs his hand into the uterus, to turn the child, and to deliver it by the feet. This doctrine which was firſt publickly taught by Ambroſe Paré, was ſoon diſſeminated, and in time adopted by all the enlightened practitioners in Europe. To this the writings of Guillemeau materially contributed, who not only adopted this practice of Paré's in the circumſtances here mentioned, but extended it to caſes of flooding and convulſions.

But this although a valuable improvement, was ſometimes impracticable, the head,

proceed to extract, "Si poſſibile ſit, id quod protrahendum "eſt." But as theſe forceps are both joined at their center or fulcrum, it muſt have been exceedingly difficult, if not impoſſible, to take hold of the head of the child with them in the vagina, until it was firſt opened. And there is reaſon to believe that Avicenna's tenacula were not more artificially conſtructed.

head of the child being forced too low down before the ſurgeon was ſent for; or too firmly wedged in the pelvis, to admit of its being put back, or of the introduction of a hand to paſs it. In theſe caſes they attempted to deliver with the aſſiſtance of a fillet; and this continued to be uſed, long after the introduction of the forceps.

The fillet was made by cutting, in a ſtrong ſlip of cloth, a ſlit, ſufficiently large to paſs over the head of the child. This was then to be carried up into the vagina, upon the hand of the accoucheur, and lodged, wherever he could fix it over the head of the child; which done, the hand was to be withdrawn, and the child extracted by pulling at the other end of the cloth. Of this ſimple contrivance many improvements were deviſed, all with a view to facilitate the paſſing it over the head of the child, or to fix it there when paſſed; but with ſo little ſucceſs, that it has been long given up as uſeleſs, or the application of it confined to thoſe caſes in which the head is entirely lodged in the vagina. In which caſes, the exertions to fix the nooſe, by exciting freſh

pains,

pains, contribute more than the fillet to the delivery.

Whilſt ſome practitioners were endeavouring to improve theſe modes of delivering, the Chamberlens, between the years 1665, and 1670 *, invented a pair of forceps with two

* "My father, brothers and myſelf, (though none elſe "in Europe that I know) have by God's bleſſing, and our "induſtry, attained to, and long practiſed a way to deliver "women, when the head, on account of ſome difficulty "or diſproportion, cannot paſs, without any prejudice to "them or their infants; though all others (being obliged "for want of ſuch an expedient, to uſe the common way) "do and muſt endanger, if not deſtroy, one or both with "hooks. By this manual operation, a labour may be diſ-"patched, on the leaſt difficulty, with fewer pains and "ſooner, to the great advantage, and without danger, both "of woman and child." Preface to a Treatiſe of Midwifery, by M. Mauriceau, tranſlated by H. Chamberlen, M.D. and publiſhed 1672. p. 13.

As this account is ſo cautiouſly worded, that it is impoſſible from it to diſcover what the invention or method alluded to was, which was evidently the intention of the writer, and for which he apologizes, a little farther on, by ſaying, "as the ſecret was the joint property of his father "and brothers with him, he was not at liberty to publiſh "it," various opinions have been entertained concerning it. Some, and among them Dr. Exton, imagined, that it conſiſted only in a more eaſy method of turning, than was then known. But, as Chamberlen ſays, p. 14 of the

two blades, contrived to ſeparate and to join again, after being introduced into the vagina. This was ſo great an improvement upon every device that had been before imagined, that it gave them, who for a long time were the ſole poſſeſſors of the ſecret, a pre-eminence over all other practitioners. With the aſſiſtance of theſe, they boaſted they

the Preface, " by the ſame means he could bring away the " head when ſeparated from the body," it is plain that could not be his meaning. The ſame obſervation is an anſwer to an opinion, firſt entertained, I believe, by Baron Van Swieten, and ſince adopted by Dr. Denman, that the inſtrument uſed by the Chamberlens was the lever, which is by no means adapted to this caſe, and fixes it to be the forceps, the only inſtrument, except cutting ones, which they diſclaimed, that is adequate to that purpoſe. That they invented them within the times I have fixed, ſeems probable from hence: in the year 1665, ſeven years before the ſon tranſlated Mauriceau's Work, Dr. Paul Chamberlen, the father, publiſhed his *Midwife's Guide*; in which he not only makes no pretence to any ſecret mode of delivery, but he appears to have been ignorant of the method of turning, ſo long before recommended by Paré and Guillemeau, which probably induced Mauriceau to inſinuate, (*Obſer. ſur la Groſſeſſe, &c.* Tom. ii. Ob. 26.) on hearing of the great fortune the Chamberlens afterwards acquired by their practice, that they were more indebted for their ſucceſs, to the principles they had learned from his book, than to their inſtrument.

they could deliver in all caſes where the head of the child preſented, without uſing ſharp or dangerous inſtruments. In this confidence one of the ſons went to Paris *, in the year 1670, with a view to ſell his ſecret, or to practice there; and being there called to a woman with a narrow pelvis, whom Mauriceau had left, as incapable of being delivered by any other means than the cæſarean ſection, he too precipitately undertook to deliver her with his inſtrument; but after a long trial, being foiled in his attempt, he was obliged to leave the buſineſs unfiniſhed; having, as Mauriceau inſinuates, haſtened the death of the woman by his ineffectual efforts †. Diſappointed in this eſſay, and finding he ſhould not be able to ſucceed againſt ſo powerful an opponent as Mauriceau, he quitted Paris, and

* Obſ. ſur la Groſſeſſe, &c. par F. Mauriceau, ob. 26.

† This failure was a ſubject of no ſmall triumph to Mauriceau, who tells Chamberlen, (*ibid.*) he muſt not think the women at Paris were to be delivered with the ſame eaſe as the Engliſh women. " Lui faiſant entendre " qu'il s' etoit bien trompé, en croyant trouver autant de " facilité à accoucher les femmes à Paris, comme il avoit " pû trouver à Londres."

and went to Holland †, and diſpoſed of his ſecret to Roger Roonhuyſen, who then practiſed midwifery at Amſterdam. Roonhuyſen ‡, it ſhould ſeem, obſerving he could uſe one of the blades of the forceps, more eaſily and advantageouſly than both of them, and that he could better conceal it from the women and their aſſiſtants, confined himſelf to it, and making ſome alterations, formed a diſtinct

† Pratique des accouch. par M. A. Le Roy, p. 66.

‡ This difficulty of managing the forceps was early noticed, and put other practitioners, beſides Roonhuyſen, upon the expedient of uſing only a ſingle blade, or of even contriving a lever ſimilar to Roonhuyſen's. Mr. Butter of Edinburgh obſerves, that when the head of the child is a little too forward on the pubes, one blade of the forceps may be employed to bring it to a right ſituation, and aſſiſt the birth. Edinb. Med. Eſſays, vol. iii. art. 20. 1733.

Giffard found that when he uſed both the blades of his forceps they frequently ſlipped, he therefore more commonly delivered with one; and Chapman makes the ſame remark. M. Rigaudeaux, ſurgeon at Douai, in the year 1738, contrived a ſpatula or lever, which he uſed ſucceſsfully in more than forty difficult labours; and M. Warroquier, profeſſor of midwifery at Liſle, finding he could uſe a ſingle blade of the forceps with more advantage than the whole inſtrument, in the year 1753, contrived a lever which he made uſe of with ſucceſs in near 1200 caſes. —Herbiniaux, Traite ſur divers accouch. lab. p. 118.

a diſtinct inſtrument; and thence has been conſidered as the inventor of the lever.

That the lever had this origin, and was at firſt only a ſingle blade of the forceps, ſeems proved by the following circumſtances. It was the general opinion in the time of Roonhuyſen, that his ſecret was the forceps, which Mr. Vander Suam *, who lived more than forty years with Roonhuyſen, confirms. Rathlaw †, who publiſhed, in 1747, an account of what he conceived to be the ſecret of Roonhuyſen, deſcribes it as a kind of forceps; and M. Levret underſtood the ſame when he publiſhed the firſt edition of his *Suite des Obſervations* in the year 1750. Abraham Titſingh, ſurgeon at Amſterdam, and cotemporary with Roonhuyſen, ſays, if I may be allowed to uſe Haller's account of his works, "Rogerium Van Roonhuyſen, duobus corneis cochlearibus uſum eſſe, quorum ſingulum ſingulo capitis lateri applicabat ‡."

That the forceps were divulged and became generally known ſo much ſooner than the

* Levret ſuite des Obſ. v. 2. p. 215.

† Ibid. p. 202.

‡ Bibl. Chirurg. Tom. ii. p. 134.

the lever *, ſeems to have been owing to the difficulty, amounting almoſt to an impoſſibility, of uſing them, without giving ſuch a view of them as would enable a curious byſtander to form ſome general idea of them. But the ſingle blade or lever might be uſed, not only without the knowledge of the aſſiſtants, but even without the woman herſelf being conſcious that any inſtrument had been employed; of which I have met with many inſtances in my own practice.

Whatever was the origin of the lever, Roonhuyſen ſoon acquired ſuch reputation from the uſe of it, that Ruyſch, already famous for his injections, became his partner in the ſecret†, and together they engroſſed almoſt the whole of the buſineſs at Amſterdam; the magiſtrates of which city ſome time after, forbade their ſurgeons to practice midwifery, until they had been examined by the

* Although no deſcription of Chamberlen's forceps was publiſhed in this country until 1732, yet Chapman, Giffard, Butler, and others, uſed them many years before that period.

† Pratique des Accouch. par M. Le Roy, p. 79.

the poſſeſſors of this inſtrument *, and inſtructed in the manner of uſing it. But a participation in the ſecret was not to be obtained under a conſiderable ſum of money †, nor until after being bound to ſecrecy ‡. And it was even then communicated, we are told, ſo imperfectly, that when ſome time after, ſome of the pupils, perhaps ſuſpecting impoſition, came to compare their notes, they found they had been uſing different || inſtruments. By this management, the knowledge of the lever was kept a ſecret, or confined to a ſmall number of per-

 ſons,

* Ibid. p. 80, 81. Alſo, Suite des Obſ. &c. par M. Levret, 1ſt Edit. p. 205.

† "On n'en avoit communication du ſecret de Roonhuyſen, qu'a un prix enorme." Mem. de l' Acad. de Chirur. Tom. v. p. 732.

‡ "Per ſexaginta et ultra annos, latuit hoc Arcanum, et Amſtelaedami inclaruit ejus uſu Rogier Van Roonhuyſen; unde poſtea arcana hæc methodus, vel hæreditate, vel pretio numerato, una cum promiſſa ſilentii fide, ad paucos pervenit, qui hac arte incharuerunt." Comment. in Aph. Boerh. Tom iv. p. 546, 547.

|| Pratique des Accouch. par M. Le Roy, p. 80. Perhaps the circumſtance here mentioned, might ariſe from the yet unſettled opinion of Roonhuyſen, who ſometimes might uſe the forceps, ſometimes the lever.

" ated between his finger and the head of
" the child, taking care that no part of the
" uterus be included between the lever and
" the head. The inſtrument muſt then be
" moved to the right and to the left, to find
" where there is the greateſt ſpace, and in
" ſome degree to looſen and diſengage the
" head; and then gradually carried round,
" until it comes under the pubes, lifting
" the end of it from time to time, to obtain
" a freer paſſage. The handle of it muſt
" now be raiſed, and the inſtrument gently
" ſhifted about, until the occiput is exactly
" lodged in its curve. The more complete-
" ly and exactly the curve touches and em-
" braces the head, the more ſpeedily and
" eaſily the delivery will be effected. The
" inſtrument being thus firmly and equally
" applied to the head, the accoucheur muſt
" ſlowly and uniformly raiſe the handle with
" his right hand, while with his left, he
" preſſes the middle of it downward; by
" this means the coccyx is forced back-
" ward, and the lower part of the pelvis is
" enlarged. By continuing to raiſe the han-
" dle of the lever and to preſs down its

" middle

" middle or centre, the head of the child
" is made to deſcend into the dilated ca-
" vity of the vagina; and this is commonly
" effected in a few minutes, when the left
" hand muſt be applied firmly againſt the
" anus and perinæum, forcing thoſe parts
" upwards and forwards towards the orifice
" of the vagina, to prevent laceration, for
" which purpoſe alſo, the whole operation
" muſt be performed ſlowly and cautiouſly;
" imitating as much as poſſible, a natural
" labour.

We found,—add the authors of the paper,
" —a cord fixed round one of the ends
" of the inſtrument, about the middle of
" the curve. This cord, we imagine, ſerved
" no other purpoſe, than to point out the
" end of the inſtrument commonly made
" uſe of, or to meaſure the length of the
" part introduced."

Smellie, who did not ſee this account until the firſt volume of his caſes and obſervations was printed, takes notice of it in the preface to the volume, in the following terms. " M. Preville has obliged the world
" with a print of the inſtrument uſed by

" Roonhuyſen, as we uſe a ſingle blade of " the forceps, to move along the head in " laborious caſes. This ſecret is ſaid to " have been communicated towards the end " of the laſt century, by the Chamberlens " to Ruyſch, Roonhuyſen, and Boekelman " at Amſterdam." As Smellie was then advanced in years, and about to quit the practice of midwifery, he contented himſelf with thus ſlightly noticing it; had he become earlier acquainted with it, ſo as to have been enabled to experience the utility of it, there can be no doubt, from his known candour, that he would have recommended it, and under his auſpices the practitioners of this country would have as far excelled all others in their knowledge of the management and uſe of the lever, as for a long time they did in that of the forceps.

Monſ. Levret, who had not heard * of the lever when he publiſhed his firſt volume of Obſervations on laborious Births, beſtows a criticiſm upon it in his ſecond volume. But it is eaſy to ſee he writes from theory alone.

The

* Preface to *Suite des Obſer. ſur les Cauſes*, &c. p. 11.

The pains he had taken to improve his forceps, and his confidence in them and his *tire tete*, left him little leiſure or inclination to examine impartially an invention, contrived to anſwer the purpoſes of the forceps; and boaſted to be much ſuperior to them. He however firſt ſuggeſted, that the proper uſe of the cord †, found in one of the curves of the lever, and which the publiſhers of the ſecret were unable to aſſign the meaning of, was to moderate the preſſure of the inſtrument againſt the pubes, and to facilitate the deſcent of the head of the child.

But although the lever was neglected or proſcribed by the Engliſh and French profeſſors, it continued to be uſed with great ſucceſs by the Dutch, who laboured to improve both the inſtrument and the manual or manner of uſing it.

Theſe alterations Profeſſor Camper has given an account of in a paper publiſhed in the fifth volume of the Memoirs of the Academy of Surgery at Paris. The changes made in the inſtrument, were not material, conſiſting principally of ſome ſlight alterations in their curves.

† Ibid. p. 43.

curves. Mr. Titſingh's lever had only one curve, the other extremity terminating in a ring, for the greater facility of holding it. But a more material improvement had been made in the manner of introducing it. Mr. Titſingh * paſſed it immediately under the

* The following Letter from Mr. Titſingh to M. Herbiniaux, inſerted by the latter in his Traité ſur divers Accouch. Labor. I thought might be acceptable to the reader, as containing his improved method of uſing the lever, and I have therefore tranſcribed it:

" Suppoſons une femme dans cette eſpece d'accouch-
" ment ou la tête eſt enclaveè. Je la fais coucher en tra-
" vers ſon lit, de maniere que ſes deux jambes ſont hors
" de lit. Je m' aſſieds devant elle; ſes genoux ſont elevès,
" et deux femmes aſſiſes à mes cotés lui tiennent les pieds.
" Je place ſon corps aſſez avant, ſur le bord du lit, pour que
" ſes feſſes l'outrepaſſent un peu. Alors je tire mon levier,
" et je l'enduis de pomade ou d' huile. Je portes enſuite les
" deux premiers doigts de la main gauche avec leur dos
" contre la tête de l'enfant le plus loin qu' il eſt poſſible
" ſous l' os pubis, entre les levres de la matrice, tenant la
" ſpatule de la main droite. Apres en avoir posè l' ex-
" tremité ſous les deux doigts de la maine gauche, je
" la gliſſe au deſſus de la tête de l' enfant, en donnant quel-
" ques ſecouſſes d' un côté et d' autre. Mais il peut ar-
" river que la tête ſoit ſi preſſée contre l' os pubis, que le
" levier n' avance pas aiſement. Alors je la degage un
" peu avec les deux doigts; et pour cela, je ſuis auſſi
" obligé de lui faire eprouver une foible preſſion, avec la
" partie

the pubes, by which means the tedious and troubleſome manœuvre, of moving the inſtrument half round the circumference of the pelvis, was avoided. Others* introduced it on one ſide of the pelvis over the iſchium.

Profeſſor Camper's paper alſo contains tables of laborious and præternatural labours at Amſterdam, from the year 1741 to 1765, kept by Meſſ. Titſingh and Berkman, who were engaged by the public to attend all the poor women in that city, in difficult labours. From the firſt table it appears, that of 539 laborious or præternatural births, (about 22 each year) 165 were head caſes; that in 98 the arms, in 66, the breech, in 64, the feet, in 2, the back, and in 44, the funis preſented. But as the head probably came down with the funis in a conſiderable number of the laſt claſs, the caſes in which the impediment to the birth proceeded from the head

« partie anterieure de mon levier, a fin de m'y procurer un « peu d' eſpace pour le placer convenablement. Tout « ceci etant fait, mon levier eſt d'ordinaire obliquement « placé ſur la tête, ayant ſon extrêmité à côté de l' os occi- « pital, aux environs de l'apophyſe maſtoide, et cette « place ne differe de quelques choſes qu' à meſure que la « face eſt plus ou moins tourneé de côté."

* Mem. de l'Acad. de Chir. p. 741.

head being detained in the paſſage will amount to about one third of the whole number; all which were delivered with the lever *. From the ſecond table kept by Mr. Berkman, during a part of the above period, when he performed the whole of the buſineſs, 89 children appear to have been delivered with the lever, 72 of which were born alive; of the remainder, ſeven were putrid, conſequently dead before the commencement of labour.

As the proportion of head caſes, in which it was thought neceſſary to uſe the lever, mentioned in the firſt table, appears conſiderable, it has therefore been doubted whether there was in all of them a neceſſity† for uſing

* Mem. de l'Acad. de Chir. p. 735. Tous les enfans qui preſentoient la tête, ont été tirés par la ſpatule ou levier.

† Of this neceſſity practitioners entertain different opinions; we are very ready to condemn a too great fondneſs for inſtruments: is there not danger of running into the oppoſite extreme, and of becoming too averſe to and fearful of them? Perhaps part of the miſchief ſuppoſed to have been occaſioned by the uſe of the forceps or lever has been owing to the head of the child being ſuffered to remain too long incarcerated in the pelvis, and conſequently might have been

uſing inſtruments, yet all of them having been terminated with the lever, proves inconteſtibly the general utility of the inſtrument: and that it is not ſo limited in its operation as its antagoniſts contend, but that it may be uſed ſucceſsfully in almoſt all caſes in which there is ſpace ſufficient for the head of the child to paſs thro' the pelvis entire. This reſult however eſcaped the notice of profeſſor Camper, who concludes his account with limiting the uſe of the lever, to thoſe caſes in which the occiput is turned to the pubes. But it muſt be evident to thoſe verſed in the practice of midwifery, that when the head has made that turn, it very rarely requires the aſſiſtance of inſtruments; and that it is in aſſiſting to give that favourable poſition to the head, that the primary merit and

been prevented by a timely uſe of one or other of theſe inſtruments. " Combien des enfans, ſays M. Puzos, ſont " venus morts pour avoir trop séjourné dans des endroits " qu' on n' imaginoit pas leur devoir être funeſtes: que " des meres ſont reſtées eſtropiées ou incommodées tout " le reſte de leurs jours, pour avoir langui dans un " travail qu' on pouvoit abréger avantageuſement pour la " mere et pour l'enfant, &c." *Traité des Accouchmens.* C. ix. Art. ii. p. 120.

and utility of the lever conſiſts. But although profeſſor Camper does not appear to have underſtood the full value and power of the lever, yet the celebrity of his name and of the work in which his paper is publiſhed, contributed very much to ſpread the knowledge of it over Europe.

In the year 1771, Dr. Leake publiſhed an account of a new invented forceps with three blades. This conſiſted of a pair of forceps little altered from Levret's, to which the Doctor added, for a third blade, the lever of Roonhuyſen. The idea of this inſtrument ſeems to have been borrowed from the tire tete of Monſ. Levret, and like that it is intended principally to remedy the too great aptitude of the forceps to ſlip over the face of the child. The doctor thinks alſo, that it will prevent the head of the child, (graſped laterally by the two blades of the forceps) from being enlarged in its oppoſite diameter; and conſequently the occiput from being forced ſtill further over the pubes. But it muſt be eaſy to diſcern, that if the head of the child were ſo large that it could not by the force of the labour pains, be preſſed through the pelvis,

pelvis, the difficulty muſt be greatly increaſed by the addition of the three blades of this complex inſtrument; which could not poſſibly act without imminent danger to the mother.

Dr. Smellie, who had as much experience of the forceps as any man, ſaw the danger * of uſing long curved forceps, except by perſons of great experience and judgment; and therefore left the ſhort ſtraight forceps, as a legacy to the public, and as alone fit for general practice. Dr. Harvie, his ſucceſſor, in my hearing, has often ſaid, " he was afraid, the forceps, as now " made, had done more miſchief than good;" and the late Dr. Hunter was of the ſame opinion.

Dr. Denman, foreſeeing the danger of putting this triple bladed inſtrument into the hands of young and unexperienced practitioners, thought it his duty, as a public teacher of midwifery, to point out its defects, and miſchievous tendency. He rightly obſerves†, that the action of the forceps is from blade to blade, and that the action of the lever

* Treatiſe of Midwifery, lib. iii. ch. 3.

† In a ſingle ſheet which the Doctor circulated amongſt practitioners of midwifery, his pupils, and others.

lever, which is to depreſs the head of the child, cannot take place whilſt the forceps are moved, without doing great miſchief. The Doctor here adds his teſtimony to the opinion which Smellie and Harvie had given, of the danger of introducing long curved forceps into general practice; and of attempting with them to deliver, before the bulk of the head has paſſed the brim of the pelvis; and ſays, that in thoſe caſes he gives the preference to Roonhuyſen's lever.

This paper of Dr. Denman's was anſwered by a pupil of Dr. Leake, in a pamphlet in which the uſe of the forceps with three blades is defended. Some Letters alſo, written by foreign and other correſpondents, commending the ingenuity of the invention, have been added to the late editions of Dr. Leake's introductory Lecture. But the almoſt total oblivion into which the inſtrument ſeems nevertheleſs to have fallen, is the beſt proof of the propriety of the cenſure that was paſſed upon it.

In the year 1781, M. Baudeloeque publiſhed his *Art des Accouchemens*, in which he beſtows ſome pages upon the lever. He ſays*, it can only be uſed to depreſs the occiput

* Tom. ii. p. 58.

ciput, and bring the chin of the child in contact with its breaſt, when it has removed from it too early in the labour; which being done the lever is to be withdrawn, and the labour is to be completed with the forceps. From this direction it is evident that M. Baudelocque has had very little experience with the lever; if he had he would have found, that as ſoon as he had ſo far ſucceeded as to alter the poſition of the head with the lever, the buſineſs was nearly finiſhed; and that it then became neceſſary to withold a part of the force, applied to the inſtrument, to prevent the too precipitate birth of the child, and the conſequent deſtruction of the perinæum. He recommends the curve at the extremity of the lever,* to be conſiderably enlarged, and adviſes it to be uſed as a blunt hook, or crochet; and ſays, it may be advantageouſly employed when the face of the child is turned to the pubes, in which caſe, it is to be introduced along the coccyx and ſacrum of the mother.

Profeſſor Plenck, in his *Elementa Artis Obſtetriciæ*, publiſhed in the ſame year with Baudelocque's Work, gives a deſcription† and engraving of the lever. He ſays, the uſe of it

* Plate IV, Fig. 3. † Page 187.

it is to excite pains, when they are too languid, and by depreſſing the occiput, to aſſiſt delivery when the capacity of the pelvis is too ſmall to allow an eaſy paſſage to the head of the child; but he adds, that no great aſſiſtance is to be expected from it.

In the year 1783, M. Herbiniaux, ſurgeon at Bruſſels, publiſhed his *Traité ſur divers accouchemens laborieux*, in which he treats at large of the utility of the lever, and deſcribes ſome alterations and additions he has deviſed, by which he imagines he has conſiderably improved it, and rendered it ſuperior to the forceps. He firſt * obſerved, that the curves at the extremities of Roonhuyſen's lever were of different depths and extents; which he conſiders as eſſential to the perfection of the inſtrument. The ſmall curve being only applicable when the bulk of the head has paſſed the brim of the pelvis; the larger one to aſſiſt alſo in bringing down the head through that ſtrait.

He thinks, with M. Levret, that the cord may be of conſiderable uſe; but imagines that in the manner it was fixed by the inventors, the ſoft parts of the woman were liable to be abraded

* Vol. i. p. 99.

abraded by it, and he therefore orders a hole to be made through his lever *, tranſverſely from ſide to ſide, to afford a paſſage to the cord, by which means that accident is prevented. He contends that the more the curves at the extremities of the lever are enlarged †, the greater will be the difficulty of introducing it between the head of the child, and the bones of the pelvis; and that when introduced it will be more apt to ſlip, and will act with much leſs power than when the curves are ſmall. He prefers making the inſtrument of ſilver, as being leſs alarming to the woman than iron, and when well beaten and of a proper thickneſs, he has found it ſufficiently ſtrong. But as ſilver is ſmooth and ſlippery, he directs a plate of iron to be ſoldered on the internal ſurface of the ſpoons or blades; of which he has two, one with a ſmall and one with a larger curve, made to ſcrew on and take off from a common handle.

The handle is made hollow, and when fitted with its apparatus, will alſo ſerve the purpoſe of a ſyringe to inject oil or any other fluid into the uterus.

* See plate. IV. Fig. 4. † Parag. 121, 197.

When great exertion is neceſſary, he fixes a blade at each end of the handle, and thus lengthening his inſtrument, he increaſes conſiderably its power of action. He is very diffuſe in deſcribing a variety of poſitions of the head of the child, in which it may be fixed or detained in the pelvis; and the manœuvre for each of them. And in many of theſe poſitions he demonſtrates, that the lever is better adapted to overcome the obſtacle than the forceps.

In the ſame year Mr. William Deaſe, ſurgeon at Dublin, publiſhed *Obſervations in Midwifery, particularly on the Method of Delivery in difficult Labours.* He deſcribes the lever of Roonhuyſen, and thinks it can only be uſed when the head of the child is very low; and even then, from its action upon the pubes, he imagines, it muſt ever prove injurious; "retentions * of urine, he obſerves, being "the immediate, and an involuntary diſcharge "of urine, the laſting conſequence of uſing it." On theſe conſiderations, the lever ſeems to have been early laid aſide by him in favour of the forceps. But as the forceps, he ſays, "could † not be uſed without alarming the "woman

* Introduction, p. 6.

† Section iii. p. 41. ‡ Ibid. p. 46.

" woman in labour and her aſſiſtants, were " very difficult in their application, fre- " quently ſlipped, and when moſt ſucceſsful- " ly uſed, were injurious to the mother or " child, or both, at leaſt ſeven times out " of ten, he again had recourſe to the le- " ver ‡." To increaſe its power of action, and at the ſame time to render it leſs miſchievous, he adds conſiderably to the general bulk of the inſtrument, and very much enlarges the curve at the extremity. The inſtrument thus altered he denominates an *Extractor*, and ſays, he has found it to anſwer the purpoſes of the forceps, without being liable to their diſadvantages.

His directions for uſing the extractor are, after injecting a glyſter and emptying the bladder, to place the woman upon her knees * in the bed, an aſſiſtant ſitting before and the operator behind her. The latter is then to introduce the extractor on one ſide of the pelvis, where the ſacro-iſchiatic ligaments croſs, or over the tuberoſity of the iſchium, in a direction backward. When the accoucheur has found a

* Section iii. p. 49.

proper fulcrum, he is to endeavour to extract the head, by raiſing the forehead out of the cavity of the ſacrum, and the occiput from under the pubes. If the extractor has not taken hold, it muſt be ſhifted to the other ſide, and if it ſhould again fail, he adviſes the operator to deſiſt, until the woman is refreſhed; when he is to renew his attempt to deliver.

From this deſcription of the extractor, and the mode of uſing it, it is plain that it hath little of the properties of the lever of Roonhuyſen, but, like M. Baudelocque's, reſembles in every thing, except in its bulk, it being much larger, the blunt hook* or *Crochet mouſſe* of Mauriceau, or ſtill nearer perhaps, a blade of Palfyn's forceps†, as delineated by Heiſter in the ſecond

* Traité des Accouch. T. 1. p. 363,

† Palfyn was a ſurgeon at Ghent, and by many conſidered as the original inventor of the forceps.—M. Le Roy ſays, that in one of his excurſions to London, of which he made many, with the view of learning what was new in ſurgery in this country, he obtained a ſight of Chamberlen's forceps, and on his return home publiſhed them as an invention of his own. It is certain his account, which was printed in the year 1710, is the firſt we have

cond volume of his *Inſtitutiones Chirurgicæ*. The uſe of it muſt be very limited, as it can only act by drawing down, and muſt, I ſhould apprehend, be aſſiſted by a hand applied to the oppoſite ſide of the head, conſequently, cannot be efficaciouſly employed, except where there is plenty of room in the pelvis, and the head has deſcended very low, and is only retarded by the want of pains or ſtrength in the woman.

There are beſides the above, ſeveral other writers mentioned by Haller, in his Bibliotheca Chirurgica, who have treated of the lever, but as I have neither been able to ſee their works, nor to learn their doctrine concerning it preciſely, I have not noticed them here *.

have publiſhed of that inſtrument. But the Chamberlens, as we have ſhewn, uſed them more than forty years before that time.

* Crantz, who had ſeen the lever, but had not had an opportunity of uſing it, when he wrote his paper, *De re inſtrumentaria in Arte Obſtetricia*, publiſhed in 1757, expreſſed much pleaſure at the ſimplicity of the invention, and formed great expectations of the utility of it.—See the laſt page of his paper, in the firſt vol. of the *Nova Acta Acad. Nat. Curioſ.*

Dr. Aitkin, of Edinburgh, has lately contrived a lever, which, by means of numerous ſhort joints, each of them admitting, like the vertebræ of the back, a ſmall motion only, may be ſtraightened or curved at diſcretion, even after being introduced into the vagina. But as I ſee no utility in ſuch a conſtruction, and as the blade muſt unavoidably, in order to obtain this motion, be conſiderably weakened, or made much thicker than it would otherwiſe be required, I cannot recommend it.

Dr. Lowther, I underſtand, recommends the uſe of the lever to his pupils. But the inſtrument I ſee in the ſhops, under his name, appears too ſhort, and the curve too large, to be uſed with all the effect it is capable of producing, when the curve is ſmaller. But even in that ſtate it is a valuable inſtrument, and ſafer than the forceps; and therefore, very proper to be put into the hands of young practitioners, who may eaſily increaſe its power, as they become more experienced in the uſe of it.

I know

I know that this opinion of the ſuperior* ſafety and utility of the lever, will not readily be admitted by thoſe gentlemen, who having conſtantly uſed the forceps, have acquired ſuch an expertneſs in handling them, that they are neither conſcious of any material difficulty in the application of them, nor of the neceſſity of injuring with them, to any conſiderable degree

* "Les forceps ſont dangereux, en ce que, abſtraction faite de leurs avantages ou deſavantages, ils ne peuvent être maniés ſans riſque, que par celui auquel un exerciſe ſuffiſant aura donné completement l'habitude de s'en ſervir. On connoit nombre d'examples de leurs mauvais effets, tant ſur les meres que ſur les enfans, provenant de la mal addreſſe de ceux qui les ont employês." *Chayreu's Introduction to his Tranſlation of Thedens's Neue Bemerkungen.* And a little farther on he ſays, "De tous les inſtrumans propres a l'art d'accoucher il en eſt un ſeul que j' excepterai de la proſcription, c'eſt le *Levier de Roonhuyſen*; il n'en eſt pas de moins compoſé, de plus innocent, ni d'un uſage mieux entendu. Le Levier ne bleſſe ni ne dechire, ni ne meurtrit. Il ne previent point la nature, il ne la violente pas; il la ſert, il la ſeconde, il s'accommode aux difficultés preſque ſans effort, et ſans aucun riſque, il change la poſition qui forme l'obſtacle, il la rectifie et diſpoſe ainſi l'accouchement. Autant la conſtruction de cette inſtrument eſt ſimple, autant eſt aisé l'art de s'en ſervir." Ibid. Theſe quotations are taken from Herbiniaux, T. i. p. 43.

degree, either the woman or child; while on the other hand, they have been taught to believe, that * contuſions of the neck of the bladder, lacerations of the perinæum, and their conſequences, ſuppreſſion or incontinence of urine, with ſuppurations of the pudenda, are the almoſt conſtant accidents attendant upon the uſe of the lever. But it will be eaſy to ſhow that theſe accidents, when they have occurred, were not the neceſſary conſequences of uſing this inſtrument, but of the prepoſterous and improper application of it.

So

* "Mais ſouvent,—ſays Prof. Camper,—l'urethre en eſt fort endommagé, ſouvent le périné ſe fend plus que dans l'accouchement naturel, et que lors qu'on ſe ſert d'un forceps quelconque." Mem. de l'Acad. de Chir. T. v. p. 743.

"Notwithſtanding the ſeeming ſimplicity of the lever, its uſe may be attended with the utmoſt danger; for as the ſymphiſis of the pubes is the centre from which it acts, and the reſting point upon which the whole ſtreſs is laid, whenever much force is applied to bring down the head, action and reaction being the ſame, the vagina, neck of the bladder, and nervous parts, may be ſo violently bruiſed as to occaſion mortification, or even the very ſymphiſis of the pubes might happen to give way." Deſcription and uſe of the forceps with three blades, by Dr. John Leake.

So much were the early poſſeſſors of the lever attached to it, that many of them, like the inventors of the forceps, imagined they could deliver with it in all caſes, when the head of the child preſented; therefore, utterly diſcarding the crotchet, and all cutting inſtruments, they obſtinately perſevered in their attempts to bring the head with it, even when the pelvis was ſo narrow, or the head of the child ſo large, that it was impoſſible to effect it, without doing irreparable injury to the woman.* But the great character that many of the profeſſors of midwifery obtained by the uſe of the lever, are proofs that they were not all infected with this error. "Johannes de Bruyn," ſays Baron Van Swieten, "Quadraginta duorum "annorum ſpatio, octingentos infantes, ca- "pite in anguſta pelvi incuneatos hærentes, "eduxit vivos?" And other practitioners, who participated of the ſecret, at the ſame period, made uſe of it ſucceſsfully in a much

* Ils travailloient juſqu' à ce que la tête de l'enfant, a la fin étouffé, fût pouſſée audehors; ou que la mere, auſſibien que l'enfant, euſſent rendu l'ame.—Mem. de L'Acad. Royale de Chirurgie, tom. v. p. 739.

a much greater number of caſes *. The ſame reputation and ſucceſs we have ſeen continue to follow the uſe of it to the preſent time †. And although Mr. Deaſe profeſſes himſelf to have been unfortunate both in the uſe of the lever and forceps, yet he appears finally to have determined in favour of the lever, as his extractor is intended only as a modification of that inſtrument. As my ſituation at the Weſtminſter General Diſpenſary ‡ affords me frequent opportunities of attending difficult labours, it enables me to bear teſtimony to the ſafety with which the lever may be uſed, as well as to its efficacy. I have never ſeen more injury done to the woman by it, than what a few days reſt has entirely diſſipated; nor more than a ſmall contuſion upon the head of the child, of as little conſequence. Neither have I been diſappointed in my expectation from it, but have always been able to

* Comment. in Aph. Boerh. T. iv. p. 548.

† See Titſingh's and Berkman's Tables before quoted.

‡ Upwards of eight hundred women are annually delivered by the midwives of that charity.

to terminate the labour with it, whenever there has been ſpace ſufficient in the pelvis to admit the head of the child to paſs through it undiminiſhed: and that by an operation generally as eaſy as it was ſucceſsful. This opinion of the ſafety and utility of the lever will be farther ſtrengthened by conſidering its make and mode of operating *. As it conſiſts of a ſingle plate of iron, of a moderate thickneſs; the ſpace it occupies when introduced into the vagina can never occaſion any obſtacle to the deſcent of the head of the child; and when acting, it neither diſtends the ſoft parts of the woman, nor ſo

* "Simpliciſſimum enim eſt inſtrumentum, parvæ molis, facile occultandum, ne parturiens et adſtantes inſtrumentorum apparatu terreantur. Unde dum latebat hoc arcanum, plurimi crediderunt, Roonhuyſianos obſtetricantes nullo inſtrumento uti, ſed peculiari, ipſis ſolis nota, encheireſi difficiles illos partus tam feliciter, et ſæpe paucorum minutorum ſpatio, abſolvere." And a little farther on, "Magnam præterea utilitatem habet, quod potentia vectis agat in os occipitis, quod firmiſſimum eſt inter oſſa capitis fœtus. Per forcipem autem prehenſum caput, comprimitur, et oblongius redditur; quod juvat quidem exitum, ſed et ſimul ſemper metum relinquit, ne molle encephalon, hac compreſſione lædatur." Van Swieten. Comment. in Aph. Boerh. T. iv. p. 547.

ſo compreſſes the head of the child as to occaſion any miſchief to the brain; but exerting its force againſt the occipital or temporal bones of the fœtus, and generally againſt a ramus of the pubes of the woman, parts the leaſt liable to be injured, and beſt adapted to admit of preſſure, it cannot, without great miſmanagement, do injury to either of them.

In reſpect to the choice of the lever, I have been principally ſolicitous to find what would anſwer in the more difficult caſes; that is, when one half, at the leaſt, of the head, is detained by its bulk above the brim of the pelvis. When it has entirely deſcended, and lies looſe in the vagina, only waiting the renewal of the pains, (which ſometimes in a ſurpriſing manner, ceaſe for many hours, when the midwife or attendant, from the preceding progreſs of the labour, have expected in a few minutes to receive the child); in ſuch caſes, which frequently happen, a blade of the ſhort forceps, or any common lever, will ſucceed, and the accoucheur will gain great honour with little labour. But in the former more exertion and management

ment is wanted; and it was not till after ſeveral trials that I obtained what I was in ſearch of.

The firſt lever I made uſe of, was only ten inches long, conſiſting of an iron blade fixed in a wooden handle, curved at its extremity, and open like the blade of the forceps. This ſize, I adopted to avoid doing that miſchief which I had been told was ſo frequently occaſioned by the lever: but finding I could not exert ſufficient power with this, I increaſed its length to about twelve inches; and this in moſt caſes will be found to anſwer the intention. Being convinced however, from repeated trials with this, that no danger whatever was to be apprehended from inſtruments of this kind, when properly managed; and finding caſes where the head was not within the power even of this inſtrument, but which I yet believed might be delivered with the lever, I ordered one to be made entirely of iron, curved at each extremity, thirteen inches and a half long, one inch and an eighth in width, increaſing to an inch and a half at that end which is commonly

monly uſed, carefully ſmoothed and rounded at each extremity in the manner the forceps are uſually finiſhed, plain on its inner ſurface, but with its back convex, and of a ſufficient thickneſs to prevent its bending during the operation of extracting the head of the child, an accident which happened to me twice, when I uſed a ſmaller lever with a round ſtem to make it more portable, but without the leaſt injury to the woman or the child.

The curves of this lever are nearly equal, and about the depth of the largeſt of Roonhuyſens; which I have found the moſt generally uſeful ſize. One extremity is made thinner and narrower than the other, this end I have been obliged to uſe in ſome caſes, where the head was ſo wedged as not to admit the larger extremity.

However formidable this inſtrument may appear, from its bulk, I can affirm, from experience, having uſed it ſafely and ſucceſsfully in ſeveral very difficult caſes, that it is not on that account more liable to do miſchief; on the contrary, by affording ſufficient ſpace for the hands of the operator, it

it is more eaſily kept from preſſing upon, and injuring the parts of the woman. It may, nevertheleſs, not be amiſs for practitioners to begin with uſing a ſmall one, increaſing the ſize as they acquire ſkill in handling it.

I have never uſed the cord or ſtrap, which appears to have been a part of the original invention. It ſeems likely to embarraſs the operator, and takes from the inſtrument a part of its ſimplicity, for which it is ſo deſerving of commendation. M. Titſingh, I obſerve, takes no notice of it in his Letter to M. Herbiniaux; whence it ſeems likely he has diſcarded it.

I have alſo left off covering my lever with leather, or plaſter, which not only unneceſſarily increaſed its bulk, and thence added to the difficulty of introducing it, but ſerved to imbibe filth, from which it was not eaſy to keep it free.

As the directions given by Dr. Viſcher and Dr. Vandepoll, relative to the manner of uſing the lever, are by no means complete, I will endeavour to ſupply what is deficient, and to adapt them to the method of placing women, practiſed in this country, which

differs materially from that uſed on the continent. But before I proceed to theſe, I ſhall take notice of a general rule that has been adopted in uſing the forceps, from whence the neceſſity of introducing the lever into general practice will be more apparent.

From the firſt introduction of the forceps into practice, there have not been wanting intereſted perſons, who knowing how agreeable it was to the prejudices of the world, and conſulting their own emolument, rather than the honour of the profeſſion or the intereſts of humanity, have affected to affirm, they could terminate all thoſe labours in which that inſtrument is directed to be employed, with equal ſafety and advantage with their hands alone. This doctrine, ſo repugnant to truth and experience, has unfortunately met with ſupport from ſome celebrated names, both on the continent * and in this country; and it is ſtill too

* The principal of theſe were Deventer in Holland, Mowbray, Sir Richard Manningham and Exton in this country. Deventer extended the practice of turning (at firſt only uſed when the child preſented tranverſely, or in caſes of flooding) to all caſes where the head is fixed in the

too prevalent, particularly in ſmall towns and villages; where habits, of whatſoever kind,

the pelvis. " Quando dolorum efficia, infantes expelli non poſſunt, Obſtetricante manu opus eſt, qua commodius ſemper previis pedibus quam capite educuntur." Oper. chirurg. 4to. p. 146. But when the head of the child, by the continuance of the labour pains, is found ſo firmly wedged in the pelvis, that it cannot be put back, he adviſes the hand to be introduced into the vagina, with the back to the Sacrum, and the fingers paſſed within the os uteri, and made to reſt upon the head of the child, then, during a pain, the hand, he obſerves, muſt be preſſed back with ſuch force as to move the coccyx, and thence to enlarge the paſſage. Deventer had a high opinion of the efficacy of this manœuvre, which he kept many years ſecret; probably hoping by it to balance the reputation the Chamberlens and Roonhuyſen, with whom he was cotemporary, gained by the uſe of the forceps, which they kept carefully concealed. Mowbray who adopted this ſyſtem of Deventer, is very earneſt in decrying the uſe of inſtruments, but the air of myſtery which pervades his work, together with his unpardonable falſhood, relative to what he calls the Suyger, which he pretends to have repeatedly ſeen, and which he ſays, almoſt conſtantly precedes the birth of the child in the labours of the wives of the Dutch Mariners, (ſee his Female Phyſician, p. 375.) have deſervedly brought his name and writings into contempt. Sir Richard Manningham's Compendium artis Obſtetricariæ is little more than an abridgment of Deventer's work; the whole doctrine of which he adopts, and in many place the words alſo, although without once naming that author;

take deeper root, and are with more difficulty corrected than in large and populous cities. In compliance with this maxim, whenever the head of the child is detained in the pelvis, if there is ſpace ſufficient to admit the hand, they invariably attempt to turn it and deliver by the feet. But when the pelvis is narrow, the reſiſtance to the paſſage of the head of the child will be ſo great as to occaſion its deſtruction, and the uterus and the internal ſurface of the vagina of the woman will at the ſame time be ſo bruiſed as to put her life alſo in the moſt imminent danger, or if ſhe eſcape with that, to ſubject her to the moſt dreadful diſeaſes during the remainder of her days. For the continuance of this practice, they are in ſome degree excuſable, from

thor; in concluſion he declares, that in more than thirty years extenſive practice in Midwifery, he did not remember to have had occaſion to uſe the forceps more than three times. Aph. Med. p. 136. Exton, who received the rudiments of his education from Chapman, was at the firſt, an advocate for the forceps, but becoming afterwards a pupil to Manningham, he relinquiſhed them, and adopted the practice of forcing back the os coccygis, by which he ſays, he obtained all the advantage he had before gained by uſing the forceps. Introduction to a Syſtem of Midwifery, p. 6.

from obſerving that the moſt celebrated writers upon the ſubject, direct the forceps to be uſed with ſuch cautions and limitations, as amount almoſt to a prohibition, and in the conſequences are nearly as fatal to the woman, in many caſes, as when not uſed at all. I allude to the direction to abſtain from uſing the forceps until the head of the child has paſſed into and entirely fills the little pelvis. If this doctrine is founded on experience, then is the benefit to be derived from the forceps very little and inſignificant indeed; and they are by no means deſerving the contention they have occaſioned, or the pains thoſe very gentlemen have taken to improve and regulate them. Theſe precautions therefore, I conſider, as only intended for pupils and young practitioners, and declarative of the difficulty and danger of uſing the forceps, except by perſons of great experience and judgment. But as it muſt neceſſarily happen, that caſes, out of the reach of the forceps, according to theſe reſtrictions, muſt occur, where it would be dangerous to delay the delivery, and where it would be barbarous to have recourſe to the crotchet, to aſſiſt in theſe caſes, it is, that an inſtrument was wanted,

eaſy in its application, and powerful in its effect, ſuch a one as is the lever; which may be uſed with equal ſafety and advantage whenever the head is within its ſphere of action: becauſe the lever preſſing upon the head of the child in one point only, on or near the baſis of the os occipitis, as was before noticed, allows it to extend itſelf in every other direction, ſo as to fill equally and entirely the cavity of the pelvis, which when embraced by the two blades of the forceps, it is prohibited from doing.

The caſes in which the lever may be advantageouſly employed, have ſo near an affinity with thoſe in which we are under the neceſſity of uſing the perforator and crotchet, being often only ſhades or degrees of the ſame obſtacle, that it is frequently impoſſible to determine with certainty, in the commencement of labour, which inſtrument it may be neceſſary to make uſe of. It therefore ſeems proper to conſider the general progreſs of a labour in that claſs, which is uſually denominated laborious, that is, where the child, preſenting with its head, is protruded ſo ſlowly, and with ſo much difficulty, that its own life, as well as that of the

the mother, are in imminent danger; and to preſcribe a general method of conducting women through ſuch difficult labours.

A woman in labour is to be treated as if ſuffering ſpurious pains, ſo long as the os uteri either remains thick, rigid and cloſe, or after being a little open, does not go on dilating. If ſhe is hot, and the veſſels are full, ſhe muſt be blooded, the bowels muſt be emptied by glyſters, and by ſmall doſes of ſalts, caſtor oil, or ſome other fit aperient; and at night a ſufficient doſe of laudanum ſhould be given to procure reſt. The diet in the mean time muſt be regulated, and the air of the room kept cool, and the woman muſt be admoniſhed not to ſtrain during the pains, but to leave them to exert their natural force; and this proceſs muſt be continued until the os externum as well as the os internum are ſo relaxed as to admit eaſily the paſſing two or three fingers, or the hand if neceſſary, into the vagina, to examine the ſituation of the head of the child, and to explore the capacity of the pelvis.

If the head of the child is found ſtill reſting above the brim of the pelvis, a portion of the ſcalp only, or a very ſmall part of the

bony caſque, being thruſt down through that ſtrait, which is found to be preternaturally narrow, the os ſacrum projecting, and approaching too near the pubes, there can be little hopes of a child paſſing through alive, under ſuch circumſtances, and through ſuch a pelvis *. The ſoft parts of the woman are now prepared, and the ſooner we begin to deliver by opening the head of the child and extracting it with the crotchet, with the greater ſucceſs and advantage to the woman, (whoſe ſafety is now alone to be conſulted) will the operation be terminated.

But if half, or the major part of the ſkull has been forced through the brim of the pelvis, and notwithſtanding the continuance of the labour pains, remains firmly wedged there, making no progreſs, or only an almoſt inſenſible one, for the ſpace of four or five

* It has lately been uſual to give the dimenſions of the pelvis in inches, and to determine upon the neceſſity of uſing the crotchet by the number of inches or parts of inches the largeſt opening, which in a diſtorted pelvis is always on one ſide, is ſuppoſed to meaſure. But as this cannot be accurately done, I have thought it better to take the indications from circumſtances that are more obvious, and about which practitioners are more likely to be agreed.

five hours, in whatever poſition it may offer, we muſt proceed to deliver with the lever, leſt by longer waiting, the pains ſhould flag or ceaſe, the ſtrength of the woman be exhauſted, the diſcharges from the vagina ſhould become putrid and acrid, and in fine, inflammation or fever take place; which, afterwards it will be out of our power to remove or prevent the effects of. But if we ſhould begin to operate before the period I have deſcribed, there would be danger of lacerating the perinæum, and of bruiſing or injuring the vagina, or the uterus itſelf, particularly if it be the firſt child. And this danger will be greater when uſing the forceps than the lever.

But it may be aſked, are we in all caſes to proceed to deliver with inſtruments, as ſoon as the parts of the woman are ſo far relaxed as to afford a paſſage to the head of the child? How long we may wait, after this period, before there is danger of inflammation or of ſome dreadful miſchief, it is impoſſible by any fixed rule to determine; as that will be very different in different conſtitutions. Some women will bear the continuance of violent pains ſeveral days without material miſchief, whilſt

whilſt others will be hurried into fevers, or convulſions, at the end of a few hours only. In general, women with their firſt children are ſooneſt injured. And when the head of the child is ſo preſſed into the pelvis as to deny egreſs to the urine, the danger is imminent.

But it will be ſufficient to have pointed out the period when the lever may be uſed with ſafety; the practitioner will determine in each particular caſe, from his knowledge of the conſtitution of the patient, and from the circumſtances before him.

The head of the child being ſufficiently low, to afford a reaſonable hope of ſucceſs with the lever, the woman is to be placed on her left ſide, as in a natural labour, when one or two fingers of the right hand muſt be introduced between the pubes and the head of the child, wherever there is moſt room, (which will generally be a little on one ſide of the ſymphyſis of the pubes) with the back of the fingers to the pubes; when the end of the lever, anointed with lard, muſt be gradually inſinuated between the head of the child and the fingers, with which alſo the inſtrument muſt be guided until it has paſſed the

the os internum; then the fingers muſt be withdrawn, and the inſtrument will readily paſs along until it finds a part to reſt upon, which will generally be near or upon the maſtoid proceſs of the temporal bone, or on the baſis of the os occipitis; and according as the head of the child is more or leſs obliquely ſituated in the pelvis, or in other words, as the occiput of the child is nearer to, or farther from the pubes, the ſtem of the lever will reſt either againſt the pubes or the iſchium. Taking now the handle of the lever in his right hand, the accoucheur muſt, during a pain, raiſe it gradually over the pubes and abdomen of the woman, his left hand at the ſame time preſſing down the middle of the lever, to which it affords a fulcrum, thus preſerving the parts immediately under the pubes, from injury. On the pain ceaſing he muſt reſt, and renew his efforts with each returning pain, (which if tardy he may excite by a ſlight motion of the inſtrument) until he finds the head of the child puſhing out the perinæum, which muſt be guarded and ſupported with his left hand, now no longer wanted to preſs down the centre of the lever, continuing to raiſe the handle of

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the lever with his right hand, until the head has ſo far entered the external paſſage, that he is ſure every obſtacle to the birth is removed, when the lever may be ſlowly withdrawn.

Theſe directions, muſt however be varied, to ſuit the different poſitions in which the head of the child may offer. For when the head of the child preſents tranſverſely, one ear being to the pubes and the other to the ſacrum, the lever muſt be introduced obliquely acroſs the pubes; paſſing it from that ſide of the pelvis, to which the face is directed, to the oppoſite ſide; ſo that the point of the lever may be made to reſt behind the ear or upon the occiput of the child. When the face of the child preſents, if the chin points to the ſacrum, the lever muſt be introduced in the manner already directed, either immediately under the ſymphyſis of the pubes, or a little to the right or left of it, according as the face inclines either way. If the chin is turned to the pubes, which is I believe the moſt uſual poſition, in face preſentations, or if the face is turned to the pubes, the lever muſt be introduced along the ſacrum. In this poſition I ſhould pre-

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ſer a lever with a large curve, although in this caſe alſo I have ſucceeded with my common lever.

Other poſitions in which the head of the child may preſent might be deſcribed, but as they would require only a trifling deviation from the rules here laid down, it ſeems not neceſſary to mention them. Thoſe who deſire a more particular account of them will be abundantly compenſated by conſulting M. Herbiniaux's book on the ſubject.

From the above, I think I am authoriſed to conclude, that the knowledge of the manner of employing the lever may be acquired with greater eaſe than that of the rules neceſſary for uſing the forceps; and if the action of theſe two inſtruments be compared, the pre-eminence of the lever will be found to be ſtill more conſiderable and obvious. For the lever touching the head of the child in one point only, neither alters its ſhape, nor offers any impediment to its making that turn which we always find it taking in a natural labour. The forceps, on the contrary, by preſſing the head on each ſide and diminiſhing its bulk in one direction, increaſes it in the oppoſite; and by being moved from

blade

blade to blade, the only motion they admit without ſlipping, neceſſarily alter the route the head ſhould take. When the lever is uſed the perinæum is puſhed out in form of a tumour, before the os externum is in the leaſt ſtretched as in a natural labour. With the forceps, the os externum is ſtretched by the junction of its two blades, as ſoon as the head begins to deſcend, and before it enters the hollow of the ſacrum and enlarges the perinæum; conſequently much more ſkill and addreſs is required in managing the forceps, to avoid injuring the perinæum, than in uſing the lever. I could purſue the parallel farther, but I think the above is ſufficient to prove, what I profeſſed to ſhow, that conſiderable advantage will accrue from introducing the lever into general practice, inſtead of the forceps.

XXX. *An account of a very uncommon Blindneſs in the Eyes of newly born Children. By Mr.* SAMUEL FARAR, *Surgeon, at Deptford. Communicated by Mr.* WATSON. *Read March* 2, 1790.

ABOUT nine years ſince, I was deſired to ſee a child, who was about a month old, and apparently blind, having the cornea of both eyes opake, ſo that not the leaſt of the iris was to be ſeen.

My opinion was, that nothing could be done in this caſe, and that the child would for ever be blind.

About a month afterwards the parents informed me there was ſome alteration in the child's eyes, and requeſted I would examine them again. I then perceived the opacity to be ſo much leſſened, that I could faintly diſcern the iris. In two months more the child could perceive light, and from that period, the ſight progreſſively increaſed; and before it was ten months old, the recovery was complete.

About three years after, another child was born of the ſame parents, with exactly the ſame

ſame appearances. Having ſeen the progreſs of the firſt caſe, I concluded that in this, the event would be nearly the ſame, and indeed ſo it happened, in much about the ſame ſpace of time.

The manner in which the cornea acquired its tranſparency, was, in theſe caſes, remarkably curious: the external edge, firſt growing thin, ſoon after became clear and tranſparent; and after this manner the whole ſurface of the cornea brightened up, the center being the laſt ſpot that recovered its tranſparency.

Two years ago the ſame perſons had a third child born with the ſame appearances, except that the opake part ſeemed thicker; and that a ſhort round ligament about three eighths of an inch long, and of the thickneſs of a probe, aroſe from the inner part of the upper eye lid, was attached to the inferior edge of the cornea, and when the eyelid lifted up, acted in ſome meaſure, like an additional muſcle, by partly raiſing the globe of the eye. This ligament ſoon began to waſte, and in about three weeks quite vaniſhed.

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From having ſeen the two preceding inſtances of ſight reſtored, and from the diſappearance of this ligament, I thought the opacity of the cornea in this child too, would ſoon begin to give way, but, in this, I was deceived; a whole year having elapſed before the ſmalleſt alteration took place.

At the end of a year, the child ſeemed to be much diverted by paſſing its hand perpetually with the fingers extended before its eyes; and this has been its conſtant amuſement from that time. The opacity has ſlowly diminiſhed, but much of it yet remains.

The child is now two years of age, but as it can find its way about the houſe, and diſtinguiſhes colours and different objects, by holding its head in a particular direction, I think in time, the opacity will entirely diſappear.

Deptford,
February 2d. 1790.

XXXI. *Three Inſtances of ſudden Death, with the Appearances on Diſſection. By* JAMES CARMICHAEL SMYTH, M.D. *Fellow of the College of Phyſicians, and of the Royal Society; and Phyſician Extraordinary to his Majeſty. Read March* 2, 1790.

ALTHOUGH the ſcience of phyſic is ſeldom greatly promoted by recording ſingle caſes, yet the ſociety have very properly ſhewn that they do not conſider theſe as altogether undeſerving their notice; for when a particular caſe is ſo uncommon, that the experience of any one perſon cannot poſſibly furniſh a ſufficient number of examples to admit of a general concluſion, or where it ſerves to illuſtrate or confirm any doubtful phyſiological or practical fact; it certainly merits a place in a collection ſuch as the preſent. Without farther preface or apology then, I ſhall relate the following.

1ſt. *Sudden*

1ſt. *Sudden Death occaſioned by an Ulcer in the Stomach.*

A young lady about fifteen years of age, and remarkably healthy until the preceding ſummer, when ſhe occaſionally complained of a pain at her ſtomach, but ſo trifling, that her family, imputing it to her particular time of life, paid little attention to it, was in the beginning of March laſt, after having ſupped * in a very moderate manner, taken ill at going to bed with violent pain at the ſtomach, ſickneſs, and vomiting, which ſymptoms continued great part of the night. Next morning, between eleven and twelve o'clock, I found her, though ſtill in bed, cheerful, and neither complaining of ſickneſs nor of pain; but her pulſe was extremely quick, with conſiderable tenſion and tenderneſs of the præcordia and abdomen, which ſhewed that her illneſs was of a more ſerious nature than her

* Her ſupper was a roaſted potatoe, and a glaſs of jelly.

relations apprehended; and determined me to call again in the evening. I ordered for the preſent an emollient glyſter, the præcordia and abdomen to be fomented, and a camphorated ſaline draught, with the addition of about twenty grains of an abſorbant powder, and three or four drops of the tinct. opii, to be given every four hours. But this, and every thing elſe ſhe took, was immediately thrown up; yet ſhe paſſed the day tolerably well, expreſſed great relief from the fomentation, and in the evening was in good ſpirits, until about nine o'clock when ſhe became ſuddenly reſtleſs, and with uncommon eagerneſs and anxiety deſired to be raiſed up in bed, ſpoke in a ſtrong voice to one of her ſiſters who was aſſiſting her, and inſtantly fell back without ſenſe, motion, or the leaſt appearance of life. I came into the room a few minutes after the accident, and at firſt was perſuaded that ſhe had only fainted, but upon approaching the body, I was ſoon undeceived, and found that ſhe was actually dead.

So ſudden, and ſo unexpected a death, made me extremely deſirous of aſcertaining the

the cauſe; and the family being equally anxious, readily conſented to have the body opened, which was accordingly done two days afterwards by Meſſrs. Home and Bel, gentlemen of known anatomical accuracy and experience.

The abdomen contained two or three quarts of a turbid fluid, and the inteſtines every where had the appearance of having ſuffered a high degree of peritonæal inflammation; but the cauſe of her ſudden death ſtill remained undiſcovered until the ſtomach being brought forward, I perceived on its anterior part nearly towards the cardia, a round opening ſufficient to have admitted a common ſized quill; and which, upon examining this organ more particularly, appeared evidently the effect of an internal ulcer that had deſtroyed all the coats of the ſtomach but the peritonæal, which laſt had probably burſt or given way during the action of vomiting. The ulcer was round, about the ſize of a ſixpence, and with hard or callous edges, a proof that it had been of ſome ſtanding; the

coats of the ſtomach, at this part, were alſo conſiderably thickened, though every where elſe they had a natural appearance.

We likewiſe obſerved a number of diſeaſed lymphatic glands, in the duplicature of the peritonæum, where that membrane paſſes off from the ſmaller or ſuperior curvature of the ſtomach to the pancreas. But having obtained complete information reſpecting the immediate cauſe of her death, we did not examine the body any further.

That a rupture or wound of the ſtomach will occaſion ſudden death, is a fact of which there have been too many examples to be now called in queſtion; but in the preceding hiſtory, there are two other circumſtances deſerving our notice.

1ſt. It is evident that an ulcer, at leaſt of the ſcrophulous kind, and ſuch I apprehend the preceding to have been, may exiſt on ſo ſenſible an organ as the ſtomach without cauſing any great pain or uneaſineſs.

2dly. The above caſe renders probable the opinion, that peritonæal inflammation may be excited, from the admiſſion of any other extra-

extraneous fluid as well as of air, into the cavity of the abdomen.

2d. *Sudden Death caused by an Effusion, or Extravasation of bloody Serum into the cellular Substance of the Lungs.*

A lady about forty years of age, tall, well-made, the mother of several children, and who, excepting some trifling stomach complaints, had in general enjoyed very good health, was, in the month of October 1789, seized with a fever. In the beginning of her illness she complained greatly of noise in her head, of deafness, and of a weight, or bar, as she expressed herself, across her stomach; her pulse was too small and frequent to be accurately counted, but it was not less than 140 pulsations in a minute; her tongue was covered with aphthæ, which, in all probability, occupied the whole alimentary canal; as white sloughs, were for a considerable time, mixed with the evacuations by stool: she had also a cough, with an expectoration of mucus, but she expectorated easily, and made no complaint of

pain in her cheſt, nor was her breathing in the leaſt affected.

For ſome time after I firſt ſaw her, ſhe was delirious in the night, and for two or three days, was not perfectly ſenſible even during the day; ſhe once bled at the noſe, but the hæmorrhage was ſoon ſtopped.

In about ten or twelve days the thruſh was entirely gone off; her tongue, though red, was moiſt; the heat of the body, excepting now and then that ſhe had fluſhings in the face, was moderate; her pulſe was firm and regular, and at the end of three weeks was only 90 in the minute. She ſtill continued deaf; but had no delirium even in the night; no tremor; no difficulty in breathing; ſlept with her head remarkably low, could ſit up in bed without aſſiſtance; and as ſhe took plenty of light nouriſhment, wine, bark, &c. there was every reaſon to entertain hopes of her ſpeedy recovery. In the midſt of theſe flattering appearances, and after having paſſed a good night, ſhe was ſuddenly ſeized, between eight and nine o'clock in the morning, with great difficulty of breathing. At ten I found her inſenſible, breathing with the greateſt difficulty,

ficulty, though raiſed up in bed; her features altered, the pupils of the eyes greatly dilated, and not affected by light; and though the pulſe, even at this time was regular and firm, and not much increaſed in frequency, ſhe was evidently in the agonies of death. As ſhe could ſtill ſwallow, wine warmed with ſpices, volatiles, muſk, &c. were adminiſtered, with a view to relieve her breathing, but all in vain, ſhe breathed with more and more difficulty for about ſixteen hours, and then expired.

In this caſe, as in the preceding, every conjecture that could be formed, reſpecting the cauſe of the patient's death, was liable to conſiderable objections. It was evident, that the fever had not been directly or immediately the cauſe of her death, as the febrile ſymptoms had almoſt entirely ceaſed; nor was there an appearance of any freſh exacerbation; on the contrary, the pulſe was remarkably good to the laſt. There had been no previous pneumonic inflammation; no appearance of diſeaſed lungs; nor had her breathing been in the ſlighteſt degree affected during the whole of her illneſs: ſo ſudden and ſo great a difficulty of breathing

breathing then, could only be occaſioned by ſpaſm; or by the effuſion of a fluid into the cellular ſubſtance of the lungs or cavity of the cheſt.

As for ſpaſm, I have ſeldom ſeen it prove fatal, even in gouty ſubjects, unleſs where the lungs were previouſly diſeaſed.

An effuſion of air, or the pure emphyſema of the lungs, is a very rare diſeaſe; I have only met with one inſtance of it on diſſection, and I know but one more upon record.

An effuſion of blood, or hæmorrhage from the lungs, is not an uncommon accident; but it is generally attended with a diſcharge of blood from the trachea, and only kills when the blood is poured out faſter than it can be expectorated.

An anaſarca of the lungs, or dropſy of the cheſt, could ſcarcely be ſuppoſed to have taken place ſo ſuddenly. The accumulation of ſerum is commonly more gradual, and gives intimation of its preſence by appearances and ſymptoms in other parts of the body. In ſhort, all conjecture was vain, and our doubts could only be reſolved by the examination of the body, which was accordingly

ingly done in my preſence by Meſſ. Home and Bel.

As ſhe had complained ſo much during her illneſs of uncommon noiſe in the head, of deafneſs, &c. we began by examining the head; but here, there was not the ſlighteſt appearance of diſeaſe, the brain and its membranes were in the moſt perfect ſtate. We next examined the contents of the abdomen, which were equally ſound, excepting a ſmall portion of the ileum, where the coats of that inteſtine, which had been in contact with a diſeaſed meſenteric gland, were thickened with evident marks of inflammation, and internally there was a ſmall ulceration, which had eroded all the coats of the inteſtine, except the exterior or peritonæal.

In the laſt place we proceeded to examine the contents of the thorax. There was but little ſerum, either in the cavity of the cheſt or pericardium; the heart and lungs in general were free from diſeaſe, only the left lobe, eſpecially towards the inferior part, was filled with bloody ſerum, and in hardneſs reſembled the natural firmneſs of the liver.

It

It was evident then that a ſudden effuſion or tranſudation of blood and of ſerum into the left lobe of the lungs had cauſed the difficulty of breathing, and ſudden death of the patient. Hæmorrhages are not unuſual in putrid fevers, and they occurred very frequently in the fevers of laſt autumn, but an effuſion of blood into the lungs, without hæmoptyſis, is certainly a very uncommon caſe, and what I never met with before, excepting once after a peripneumony.

3d. *An Angina Laryngea, and ſudden Suffocation from a ſchirrhous Tumor ſituate on the interior and poſterior Part of the Larynx.*

A gentleman of Epſom, in Surrey, about ſixty years of age, extremely healthy, active, and fond of fox hunting; which amuſement, during the winter ſeaſon, he commonly took once or twice a week, was ſeized ſome time in the autumn of the year 1788 with a hoarſeneſs, which at firſt was attended with no farther inconvenience than the loſs of voice; though in the courſe of the winter,

winter, he, particularly after hunting, perceived alſo ſome ſlight difficulty in breathing, but ſo inconſiderable, that he paid no attention to it. In the beginning of February, the year following, after hunting for ſeveral days during ſevere cold weather, the difficulty of breathing ſuddenly increaſed to a very alarming height. I was immediately ſent for, and upon my arrival at Epſom, found him extremely faint and low, ſitting in a great chair with the collar of his ſhirt unbuttoned, and, even in that ſituation in danger of ſuffocation. His inſpiration was ſlow, difficult, and performed with a loud noiſe, exactly reſembling the breathing of a child in the diſeaſe commonly, though improperly, called angina laryngea. His pulſe was regular, and not more frequent than when in health; his tongue was moiſt and clean; nor was his ſkin hotter than uſual. In ſhort, it was evident, even to himſelf, that the cauſe of his difficult breathing was ſituate in the larynx; but as he had no pain, and there was no ſwelling or inflammation to be perceived, either externally

or

or internally, the nature of that cauſe could only be gueſſed at.

Fomentations, ſtimulating cataplaſms, and bliſters, were in ſucceſſion applied to the larynx; he was vomited with tartar emetic, took various antiſpaſmodics, as muſk, volatile alkali and vitriolic æther; and fumigations both moiſt and dry, were occaſionally employed. His breathing, by this treatment, was ſomewhat relieved, and he expectorated a little viſcid mucus.

Two days after this, I was again requeſted to viſit him, and went with a full determination to adviſe him, (knowing that he was a man of a very firm mind) to ſubmit to the operation of bronchotomy. Upon my arrival, however, at his houſe I was informed that he had ſpit up ſome purulent matter, and perceived that he breathed with conſiderably leſs difficulty than when I laſt ſaw him; but altho' he was then perfectly ſenſible, and had no ſymptom of fever, he had been delirious in the night, which had greatly alarmed his family, and was the reaſon of their again ſending for me.

I now began to entertain hopes that the tumor, which probably was the cauſe, impeding

impeding the free ingreſs of the air, was, though indolent, capable of ſuppuration, and of being gradually reſolved. I therefore deſired that his diet might be ſomewhat more generous, and allowed him a little wine; ordering at the ſame time ſome pills of the extract of the cicuta with calomel, and a decoction of the peruvian bark.

The fate of my patient, however, did not remain long in ſuſpenſe, for in a few days he was ſeized, whilſt at dinner, with a kind of fit or ſpaſm, which ſuddenly carried him off. I immediately wrote to Mr. Mayd, the ſurgeon who attended him, to apply in my name to the family for their permiſſion to have the body examined; and his letter is the beſt account I can give of the diſſection.

Epſom, Feb. 14, 1789.

Dear Sir,

Mr. ——— having conſented to the inſpection of his father's body, I now take the liberty of informing you of the reſult. There was no appearance of diſeaſe in the integuments, muſcles, or lymphatic glands in

in the neck; the thyroid gland was a little enlarged, and a good deal inflamed, though not hard, which was probably caused by the blisters: no appearance of disease in the pharynx, or œsophagus; but upon cutting through the posterior part of the cartilages of the larynx, which were very considerably ossified, I perceived a pretty large tumor, extending two fingers breadth on the membrane lining the internal surface of the cartilages; its position was immediately below the rima glottidis on the right side, and it completely filled up the passage; the middle of the tumor had suppurated and burst, and there was a cavity in it sufficient to admit a large pea; the part of it that had not suppurated was very hard, and a small ulceration extended quite up to the top of the larynx; neither the inflammation nor the ulceration extended at all downwards towards the trachea. Is it not a singular occurrence, that so large a tumor, coming to suppuration, should be attended with so little pain?

(Signed) J. W. Mayd.

I shall

I ſhall make no comment on the preceding hiſtory, and only at preſent remark, that although I had never before met with a caſe exactly ſimilar, or which proved ſo immediately fatal; yet I had ſeen two examples of chronic angina laryngea, where the breathing was equally ſlow, difficult, and accompanied with the ſame ſonorous noiſe, and where the cauſe, which I had no opportunity of aſcertaining by diſſection, was in all probability a ſimilar tumor of the indolent or ſkirrhous kind.

XXXII. *Of the danger of wounding the epigaſtric Artery in the operation of Tapping for the Aſcites. By the ſame. Read March 2, 1790.*

A MAN about thirty-ſix years of age, by trade a blackſmith, was received for an aſcites into the Middleſex Hoſpital: the dropſy was evidently the conſequence of a diſeaſed liver, and yet he had more the appearance of ſtrength and vigour than is common for perſons labouring under this complaint. The uſual treatment by purgatives, diuretics, mercurial frictions, &c. having been tried without ſucceſs, and the patient ſuffering great uneaſineſs from the ſize and tenſion of his belly, he was ordered to be tapped. Nothing worthy of notice occurred during the operation; but as a portion only of the water (at the deſire of my ingenious colleague, Dr. Milman) was taken away, the canula properly ſecured was left in the abdomen, and the uſual bandages were applied,

Upon

Upon viſiting the Hoſpital the day following I found my patient extremely faint, his pulſe very low and quick, and the abdomen almoſt as much diſtended as before the operation: deſirous of giving him farther relief, the plug or ſtopper of the canula, was taken out, but no diſcharge of water followed. The ſurgeon, ſuppoſing that ſome portion of the omentum probably ſtopped the orifice of the canula, paſſed a probe through it without ſucceſs: in ſhort, after a variety of trials, all in vain, the canula was withdrawn, (the extremity of which was filled up by a coagulum of blood) the uſual dreſſings and bandages were applied, and the man had ſome cordial medicine given him; but he gradually ſunk, and died in about eight and forty hours after the operation.

His death gave me great uneaſineſs, as I was not without apprehenſion, that from keeping the canula in the abdomen, air had been admitted into the cavity, which had occaſioned peritoneal inflammation, and proved the immediate cauſe of the death of the patient. Anxious to be ſatisfied of

this fact, I ordered the body to be examined; to my great joy, there was not the ſmalleſt appearance of peritoneal inflammation; and it was evident that the ſudden death of the poor man had been entirely owing to his bleeding inwardly from the epigaſtric artery, wounded by the trocar in performing the operation. This accident, which was new to me, I mentioned to the late Dr. Hunter, who ſaid that it was alſo new to him; but, from the ſituation of the artery, not at all unlikely to happen; nor could it be avoided with certainty by the moſt ſkilful ſurgeon, as the courſe of this artery varied ſo much in different ſubjects, and there being no reſiſtance to the finger, conſequently no pulſation, its place could not be accurately aſcertained.

About a twelvemonth after this misfortune at the Hoſpital, I had occaſion to obſerve the ſame thing in private practice. A patient to whom I had recommended the paracenteſis, requeſted that I would be preſent during the operation. It was performed in the uſual manner; but the ſurgeon, was much ſurprized to obſerve that the ſerum was mixed with blood, and that it flowed

with

with great difficulty. Suſpecting what had happened, I adviſed him, after about a gallon of fluid had been evacuated, to deſiſt for the preſent, and bandage up his patient. In the ſerum taken away there was a very large coagulum of blood, which ſhewed that the hæmorrhage had been conſiderable. The patient, however, did not, as in the preceding inſtance, ſink immediately, but lived ſome weeks after the operation.

Having been ſatisfied, from Dr. Hunter, that the accident above related might happen to the moſt ſkilful perſon, I inquired amongſt the ſurgeons of my acquaintance, if they had ever met with any thing of the kind. Mr. Watſon, of the Weſtminſter Hoſpital, told me, he had ſeen the accident three times; Mr. Howard, of the Middleſex Hoſpital, ſaid, he had ſeen two inſtances of it; and another Gentleman of the ſame name, Mr. Howard of Argyle-ſtreet, informed me, that he alſo had ſeen two inſtances, in one of which the wound proved fatal without any external hæmorrhage. I have been told likewiſe that a pa-

tient died not long ago at St. Thomas's Hoſpital* owing to the ſame misfortune.

But if ſuch an accident occurs, I may ſay, ſo frequently, it is a conſiderable objection to the operation, and it ſhould be a ſerious conſideration with ſurgeons how to guard againſt the fatal conſequence that is likely to follow from wounding this artery. Where the blood flows externally, coming away with the ſerum, it is evident what has happened, and if the artery runs ſo near the ſurface that it can eaſily be taken up, ſuch precaution ſhould not be neglected, but where, as in the caſe I have related, there is no appearance of hæmorrhage, a perſon that did not know that ſuch an accident might happen, could have no idea of the true cauſe of the ſinking, quick pulſe,

* It is neceſſary to remark, that the author of this paper, not having been preſent at ſome meetings of the Society, was unacquainted with the obſervations on this ſubject of Meſſrs. Ford and Pearſon; but though this paper was only lately read, the accident in queſtion, with the circumſtances above related, were communicated to the Society, and were the ſubject of public converſation at their meetings ſeveral years ago.

pulſe, diſtention of the abdomen, and ſudden death of his patient; and even if he did know it, I am extremely doubtful when the artery lies very deep, if it could be taken up by a needle, or the hæmorrhage ſtopt. But I leave this queſtion to be decided by gentlemen who underſtand the reſources of their profeſſion much better than I do; ſatisfied with having pointed out the fact, and warned phyſicians of a danger, to which their patients are expoſed, from the operation of the paracenteſis abdominis.

XXXIII. *Of the Aphonia Spaſmodica. By the ſame. Read March* 16, 1790.

THE loſs of ſpeech and voice is always mentioned by practical writers as a paralytic ſymptom, and one of thoſe which is only to be met with accompanying a hemiplegia, or preceding an apoplexy. This obſervation, though certainly juſt, admits however of ſome exceptions; for I have met with inſtances, where the loſs of ſpeech and voice, ſo far from being a paralytic ſymptom, was evidently the conſequence of a ſtate of muſcular contraction, directly oppoſite to the nature of this complaint. But as all matters of fact are to be eſtabliſhed by examples, not by reaſoning, I ſhall take the liberty of relating the following caſes in ſupport of the opinion here advanced.

CASE I.

A young woman, about ſeventeen or eighteen years of age, was brought from Hertford-

Hertfordſhire to the Middleſex Hoſpital. Not being able to ſpeak ſhe could give no account of her complaints; and her friends who came with her to town having neglected to do it, we were at firſt under ſome little embarraſſment. I ſoon, however, perceived, that though ſhe could not ſpeak, ſhe was perfectly ſenſible, and had no ſymptom either of palſy or of fever. She could put out her tongue without difficulty, and her mouth was not in the leaſt drawn aſide. Beſides theſe circumſtances, which were obvious at firſt ſight, I learnt from herſelf, that ſhe had loſt her ſpeech ſome months before, and that it was for the recovery of this that ſhe had been brought to town.

Having obſerved her tongue a little white, I ordered her an emetic, and a cordial or nervous medicine to be taken every ſix hours.

Next day, on viſiting the Hoſpital, I was greatly ſurprized to find that ſhe had already recovered her ſpeech, and was told by herſelf, as well as by the nurſe and patients in the ward, that, ſo ſoon as the emetic began to operate, ſhe found herſelf able to ſpeak.

She

She could now inform me of the particulars of her very ſingular illneſs, the commencement of which ſhe dated from having drank, along with ſome other young perſons, a large quantity of cold water for a wager. She ſaid, that ſoon after this frolick ſhe had been ſeized with a fever, during which ſhe was delirious; that upon recovering her ſenſes ſhe perceived that ſhe could not ſpeak; nor from that time, tho' ſhe regained her ſtrength, appetite, &c. was ſhe ever capable of articulating a ſyllable, until ſhe took the emetic. During the whole of her illneſs ſhe was not ſenſible of any pain, giddineſs, or other uneaſineſs, excepting a tightneſs and ſenſe of conſtriction in her throat, and about the root of her tongue, and which was removed by the emetic.

She remained only a few days in the Hoſpital, for having no return of her complaint, ſhe requeſted to be diſcharged.

CASE

CASE II.

A man, about fifty years of age, was in the year 1764 received into the Infirmary of Edinburgh. He was of a very delicate conſtitution, extremely irritable, and greatly emaciated, his body having ſuffered by diſeaſe, and his mind from the misfortunes of life. He had for ſeveral years been ſubject to irregular attacks of an intermittent fever, to hyſterical ſpaſms, chokings, convulſions, and pareſis or palſy: and a few months before his admiſſion into the Hoſpital, after having been guilty of ſome irregularity, he had a ſevere return of fever, attended with vomiting, tremors, ſenſe of ſuffocation, delirium, &c. all which ſymptoms terminated in a pareſis of the lower extremities, and of the left arm, with a complete aphonia, or loſs of ſpeech and voice, a difficulty in ſwallowing, and even in putting out his tongue; though neither this nor his mouth were in the leaſt drawn aſide. He was perfectly ſenſible of his

his ſituation, and gave me in writing a moſt exact account of his ſufferings; he had no appetite for food, and his ſleep was diſturbed, but his chief complaints were a ſenſe of choking upon attempting to ſwallow, and a tightneſs or ſenſe of conſtriction about his throat and tongue: he was likewiſe deaf, but this, as afterwards appeared, was chiefly owing to hard'ned wax in the external meatus auditorius. A variety of medicines were adminiſtered, from none of which he derived the ſmalleſt relief. At laſt he was ordered to be electrified, and the electricity produced a ſudden and very ſurprizing change on his diſorder; of which I was the better able to judge, as I applied the electricity myſelf. At firſt he had ſlight electric ſhocks, but perceiving that even the ſlighteſt occaſioned very great pain and uneaſineſs, I deſiſted entirely from them, and afterwards only inſulated him, taking ſparks from the different parts of his body. The firſt time they were taken from his throat and tongue, he perceived the tightneſs greatly relieved, and he could more freely put out his tongue; when taken from his mouth, they cauſed a conſidera-

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ble diſcharge of ſaliva. After having been a ſecond time electrified, he could articulate ſome words; and after the electricity had been employed three or four times, he could ſpeak pretty diſtinctly: he recovered his voice likewiſe, and the other ſymptoms gradually giving way, he was in a ſhort time diſmiſſed the Hoſpital in perfect health.

CASE III.

Some years ago I was ſent for to a lady, about forty years of age, of a delicate conſtitution, the mother of ſeveral children, ſubject to rheumatic and pulmonic complaints, and who a ſhort time before had ſuffered a conſiderable diſappointment in a buſineſs of great conſequence to her family. She had not probably recovered from the effect of this, when ſhe was one afternoon ſuddenly ſeized (during the catamenia, which immediately ſtopped) with a confuſion in her head, giddineſs, and total loſs of ſpeech. She retained, however, her ſenſes, and though, as may be ſuppoſed, greatly agitated

tated and alarmed, poſſeſſed completely her recollection and preſence of mind; her mouth was not drawn aſide, nor had ſhe any ſymptom of palſy or convulſion. She was immediately put to bed, and ſome warm cordial medicine given to her.

The morning following, when I ſaw her, ſhe was much more compoſed than ſhe had been, the preceding night. She had recovered her ſpeech to a certain degree, what ſhe ſpoke ſhe pronounced pretty diſtinctly, but there were ſtill many words that ſhe could not articulate. She complained of confuſion in her head, and had now the gout very evidently in her feet, and ſlightly in her hands.

Upon my viſiting her the day following, I found her extremely ill, with violent retching, anxiety, pain at the præcordia, her pulſe feeble and intermitting, with cold ſweats all over her: enquiring the cauſe of this change, I was informed that theſe ſymptoms had come on ſuddenly, and that the pain and inflammation of the extremities had diſappeared. Bliſters and cataplaſms were immediately applied to the feet and legs; and from the liberal

uſe

uſe of cordials, opium, &c. the vomiting, &c. ceaſed, and next day the pain and inflammation again appeared in the extremities. She remained long ill, and the diſeaſe put on a variety of appearances, but her ſpeech was never afterwards in the leaſt affected.

Remarks.

In the firſt place it may be proper to obſerve, that in none of the three inſtances of aphonia which we have related, was the mouth or tongue drawn aſide; nor was there any ſymptom of hemiplegia, or any threatning of apoplexy; in the firſt caſe in particular there could be no reaſon to ſuſpect palſy, conſidering the age, conſtitution, and manner of life of the patient: beſides, the complaint, which ſeemingly originated in an over diſtention of the ſtomach with cold water, was ſuddenly removed by the operation of an emetic; in this reſpect very unlike to palſy, which, though often ſuddenly induced, is always ſlowly removed; whereas ſpaſm, or a diſeaſed contraction

traction of the muſcular fibres, is in general as ſuddenly reſolved as it is excited. The complaint was likewiſe accompanied with a ſymptom, evidently the reſult of ſpaſm, viz. a ſenſe of tightneſs or conſtriction of the fauces and at the root of the tongue, which being removed at the ſame time, and by the ſame means as the aphonia, we may fairly conclude that they were, if not cauſe and effect, at leaſt effects of the ſame cauſe. The well known ſympathy between the ſtomach and fauces, and the effect of emetics, even in nauſeating doſes, in relieving ſpaſms of the trachea and fauces, are a farther proof of the nature of the aphonia in the example before us.

The ſecond caſe, may perhaps to ſome perſons appear more equivocal than the firſt, as the patient was a man, and who, along with aphonia, had ſome paralytic ſymptoms; but it ſhould be recollected, that though a man, he had all the delicacy and irritability of a female; and like that ſex was ſubject to tremors, ſpaſms, chokings, &c. even his paralytic ſymptoms were of the hyſterical kind, by which I mean, that they were incomplete, of tranſient duration, and

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not attended with any affection of the head, or at leaſt did not originate there; but though the aphonia was accompanied with palſy, there was no appearance of hemiplegia, either in the face or tongue; and he had the ſame feeling of conſtriction and confinement of the tongue and throat, as in the preceding caſe: but what puts the matter, in my opinion, beyond a doubt, is the ſudden manner in which the complaint was removed by electricity. When this was firſt applied to the purpoſes of medicine, it was conſidered chiefly as a ſtimulant, and as ſuch employed in the cure of palſy; a little experience however convinced us, that its efficacy was inconſiderable in the true palſy or hemiplegia; but it was alſo ſoon diſcovered, that its power, as a ſedative in removing pain and ſpaſm, was often very conſiderable. Judging then not only from the ſymptoms of the diſeaſe, but from the known quality and power of the remedy, it appears probable that the aphonia in this inſtance, as well as in the foregoing, was rather the effect of ſpaſm than of palſy.

The third caſe differs in ſome reſpects from the other two; as in this there was no ſenſe of conſtriction of the fauces, and the head was not perfectly free: on the other hand, there was no appearance of hemiplegia, the ſenſes were not in the leaſt affected, and the complaint went off ſuddenly upon the gout appearing in the extremities; nor had the patient, either before or after the attack of aphonia, any paralytic ſymptom. Upon the whole, the ſymptoms of all the three caſes, fully juſtify our concluſion, that the aphonia, or loſs of ſpeech and voice, in every one of them, was a ſpaſmodic, not a paralytic affection.

Whilſt on the ſubject of aphonia it may not be improper to take notice of another appearance of this diſeaſe, which is likewiſe of the hyſterical or ſpaſmodic kind: to diſtinguiſh it from the former, it may be called *aphonia ſpaſmodica intermittens*, it being only a temporary loſs of ſpeech, or rather a difficulty in articulating, which laſts but a ſhort time, from five minutes to a quarter of an hour, and recurs frequently,

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in the courſe of the day. I have known three inſtances of this; the patients were all of them female children, between four and ſix years of age. The complaint appears to be ſomewhat of the nature of the Chorea St. Viti, and like that probably occaſioned by worms or ſome other irritation in the bowels, or from teeth. Whatever be the cauſe, the diſeaſe is extremely obſtinate; and, though in itſelf really trivial, and not leading to any ſerious conſequence, occaſions great uneaſineſs to parents. Medicine ſeems of little uſe in removing it, and therefore, after cleanſing the primæ viæ, I believe our wiſeſt plan is to leave it to time and to the uſe of cold bathing. I have ſeen electricity tried here without advantage.

When I wrote the preceding account of the aphonia ſpaſmodica, I did not imagine that the diſeaſe had ever been noticed

by any practical writer. I have ſince, found one remarkable inſtance of it in Sennertus, who looked upon it as a ſymptom of ſcurvy. "Vidi alium, cum loquendi poten-" tia auferretur, nonnullis apoplecticum quid " eſſe exiſtimantibus; cui potius partium " linguam moventium a vapore, vel ſeroſo " humore contractio, et quaſi quædam con-" vulſio eſſet; cum æger ipſe poſtea referret, " ſe eo loci dolorem, et contractionem quan-" dam ſenſiſſe." Sennert. de Scorb. ſign. cap. iv.

From this ſingle caſe, which Sauvages has quoted very incorrectly, he has made a diſtinct ſpecies of diſeaſe, under the title of mutitas ſpaſmodica; adding, however, the following judicious remark of his own. "Hac ſpecie laborant non raro hyſtericæ, " quæ ſibi fauces quaſi vinculo conſtrictas " ſentiunt, et aphonæ aliquandiu remanent." Noſol. Method. Claſs. vi. Gen. xiv. Spec. 6.

UPON this paper being read at the Society, Dr. Wells mentioned that he had lately ſeen an inſtance of the complaint I had deſcribed, and has ſince favoured me with the following account of it.

" On the 3d of March 1790, Iſabel Sam-
" mon, a married woman, forty-three years
" of age, of a ſtout make and fair com-
" plexion, applied to me at the Finſbury
" Diſpenſary for relief with reſpect to con-
" vulſive fits, under which ſhe laboured.
" She ſaid ſhe had been ſubject to them for
" a long time; that formerly they had never
" attacked her oftener than once in two or
" three days; but that during the laſt week
" ſhe had experienced ſeveral every day,
" and that while the fit continued ſhe was
" altogether without ſenſe or thought, and,
" as ſhe was told, ſtruggled very much.
" Theſe circumſtances at firſt induced me
" to think the fits to be epileptic, but upon
" enquiring more particularly into their hiſ-
" tory, I concluded that they were hyſteri-
" cal; and from this view of them I pre-
" ſcribed ſuch medicines as are uſually

" given in like caſes. Her complaints con-
" tinued without any material alteration
" till the 8th of the ſame month. On that
" day, about four o'clock in the afternoon,
" upon recovering from a fit, ſhe found
" herſelf entirely deprived of the power of
" ſpeaking, or of making any noiſe what-
" ſoever with her voice, though ſhe was at
" the ſame time in full poſſeſſion of every
" other faculty, both mental and bodily.
" In this ſtate I found her on the 10th. I
" aſked her then, among other things,
" whether ſhe felt pain any where; ſhe
" ſignified ſhe did, and pointed to her
" throat; but upon examination I could
" find nothing wrong there, either inward-
" ly or outwardly. She remained in this
" ſtate till the 18th, without however hav-
" ing a fit from the time ſhe became ſpeech-
" leſs. On the 18th ſhe had ſeveral fits; at
" the end of the laſt of which ſhe found
" herſelf again able to ſpeak. At firſt ſhe
" could only utter her words in a low tone,
" as if in a whiſper; but preſently after
" ſhe pronounced them with the ſame force
" as formerly. When ſhe had thus re-
" covered her ſpeech, I enquired particu-
" larly

" larly into the nature of the feeling ſhe
" had experienced in her throat while
" dumb. She ſaid ſhe had felt as if a lump
" had been ſticking in that part of it which
" is immediately behind the upper part of
" the breaſt bone, and that when ſhe ſwal-
" lowed any thing it ſeemed to paſs that
" place with difficulty. This feeling was
" preſent the whole time ſhe was ſpeech-
" leſs, and went away as ſoon as ſhe re-
" gained her voice.

" With reſpect to the medical treatment
" I adviſed while ſhe was without the power
" of ſpeech, I ſhall only ſay, that as this
" ſymptom was not attended with any other
" ſign of palſy, or any indication of a com-
" preſſed or otherwiſe diſeaſed brain, I re-
" garded it as a part of the diſorder under
" which ſhe had before laboured, and there-
" fore did not think it neceſſary to alter the
" kind of remedies ſhe had already taken.
" And under this perſuaſion of the nature
" of the ſymptom, though I had never
" ſeen a ſimilar caſe, nor recollected to
" have read of one, I did not heſitate to
" ſay to her family, that ſhe would ſhortly
" be as able to ſpeak as ever ſhe had been.

" To complete the hiſtory of the caſe, I " may mention, that after perſiſting in the " uſe of her medicines for about three " weeks beyond the time of recovering her " voice, ſhe was diſcharged from the Diſ- " penſary as cured.

(Signed) W. C. WELLS."

July 13, 1790.

XXXIV.

XXXIV. *Of the Uſe of Cantharides, taken in Subſtance, in certain Diſeaſes of the Bladder. By the Same. Read April* 17, 1790.

ALTHOUGH cantharides, as an outward application, are in daily uſe; as an internal remedy, they are very little known. Such indeed, during the laſt century, was the general prejudice againſt them, that in the year 1698, Dr. Grœnevelt or Greenfield was, by order of the College of Phyſicians, committed to Newgate, for having preſcribed ſo dangerous a medicine. I mention this fact, not as affording any proof of the baneful quality of cantharides, but only to ſhow, that ſocieties of men, even the moſt liberal and well informed, ſeldom riſe greatly ſuperior to the prejudices of the age in which they live.

But the apprehenſion and dread of poiſons has greatly ſubſided, modern practice has availed itſelf of many of the moſt powerful, and phyſicians are now pretty generally of opinion, that the diſtinction betwixt poiſon and medicine conſiſts not in the quality

quality of the ſubſtance, but in the doſe and ſkilful application of it.

To return to our ſubject. Cantharides have been celebrated by Dioſcorides, and by many other practical writers, as a powerful diuretic; by Dr. Grœnevelt they were accounted alſo lithontriptic. They have been recommended as being of ſervice in the dropſy, ſtone, ulcer of the bladder, ſtrangury, gonorrhoea, fluor albus, and ſuppreſſion of urine. They have been employed likewiſe to promote the expulſion of the placenta, to procure abortion, to excite venery, and for the cure of impotency.

Whether, upon the whole, their virtues have not been over-rated, and phyſicians miſtaken in ſome of the qualities they have aſcribed to them, we ſhall now examine.

If by diuretic be meant a power of promoting, or of increaſing the ſecretion of urine, I am of opinion, judging merely from my own experience, that cantharides do not poſſeſs any ſuch quality; or only poſſeſs it in a very inferior degree; and I am perſuaded, that they owe their reputation entirely

tirely to two circumſtances; the firſt is their general tendency, whether applied to the ſkin, or given internally, to occaſion ſtrangury: the ſecond, their accidental effect in cauſing a conſiderable diſcharge of urine where that evacuation has been ſuppreſſed from a defect of the bladder: at leaſt, the examples given by Grœnevelt to prove the diuretic power of cantharides are all of this kind.

As for the lithontriptic power of cantharides, we may, without any particular experience on the ſubject, very ſafely affirm, that neither the nature of the human calculus, nor the chemical qualities of the medicine, warrant any ſuch opinion, and that cantharides can in no way be ſerviceable in the ſtone, unleſs by promoting its expulſion from the bladder, when of a ſize capable of being expelled.

Amongſt the various diſeaſes, for the cure of which cantharides have been ſo ſtrongly recommended, there are many where it is evident they can be of no advantage; and others where it is equally evident that they muſt be prejudicial. Their efficacy in the dropſy

dropſy reſts entirely upon a ſuppoſed quality, which, I am confident, they do not poſſeſs; at any rate it will not be denied, that we are under no neceſſity of having recourſe to them, being acquainted with medicines whoſe power in this reſpect is infinitely ſuperiour. When the gravel, or ſmall calculi that deſcend from the kidneys to the bladder, are of a ſize to be carried off along with the urine, cantharides, as I have already obſerved, by exciting the action of the bladder, may aſſiſt their expulſion: but when they are too large to be expelled, this, and every other medicine which increaſes the irritation at the neck of the bladder, muſt greatly aggravate the ſufferings of the patient, and conſequently will be avoided by every judicious phyſician.

As the gonorrhoea and ſtrangury, if not immediately cauſed, are often accompanied by inflammation of the urethra; to increaſe this by any freſh irritation, ſeems to me not a very prudent or even a ſafe practice. That cantharides ſhould prove ſerviceable in procuring abortion, or exciting venery, is, I think, extremely probable, but thoſe perſons who employ them for ſuch

ſuch purpoſes, are not likely to inform us of the ſucceſs of their practice. As I have never ſeen a caſe of real impotency, I have had no opportunity of judging of the efficacy of medicine in the cure of it; but I have been informed by a very ingenious and experienced ſurgeon, that he has repeatedly given cantharides with ſucceſs, to ſuch unhappy patients.

The only caſes in which I have hitherto employed cantharides are the fluor albus, and ſome complaints of the bladder. In the firſt I have not obſerved that they were of any ſervice; in the ſecond I have found them a medicine of uncommon efficacy, eſpecially in the iſchuria or ſuppreſſion, and in the incontinency of urine, brought on by over diſtention of the bladder. It will no doubt be thought a paradox, that the ſame medicine ſhould be employed with ſucceſs in two diſeaſes ſo directly oppoſite to each other; but, however oppoſite theſe complaints may be in appearance, they often ariſe from the ſame cauſe, and either follow in ſucceſſion, or exiſt (that is a partial ſuppreſſion and incontinency) at one and the ſame time.

Syſtematic

Syſtematic writers have enumerated four kinds or ſpecies of iſchuria, according to the parts of the body, that may occaſionally give riſe to the diſeaſe; thus we have the iſchuria renalis, ureteralis, veſicalis, and urethralis, according as the kidneys, ureters, bladder, or urethra are affected; but although it be extremely proper to diſtinguiſh the diſeaſe in this manner, as there is a poſſibility of all, or any of thoſe caſes occurring; the practical phyſician knows that a ſuppreſſion of urine is very ſeldom owing either to the kidneys or ureters, nature having ſupplied us with two of each; whilſt one in general is ſufficient for the purpoſes of the œconomy: both kidneys are rarely obſtructed or diſeaſed at the ſame time, and even when they are, a fourth or fifth part of one kidney has been found ſufficient for the ſecretion of urine and the functions of life; of which fact I lately ſaw a very convincing proof. A ſuppreſ- of urine then, is moſt commonly, either the conſequence of a diſeaſed urethra or proſtate gland; or it is owing to ſome defect in the bladder. But as the firſt caſe admits of relief

from

from ſurgery alone, I ſhall leave the conſideration of it to the gentlemen of that profeſſion, and confine my preſent enquiry to the nature of that ſuppreſſion of urine which is cauſed by a defect in the action of the bladder itſelf, a caſe where the ſkill of the phyſician is no leſs neceſſary than the art of the ſurgeon, to relieve the patient.

We know from phyſiology that the bladder is not a mere inactive reſervoir, or organ poſſeſſing only elaſticity, but its fibres, like thoſe of the ſtomach and inteſtines, are capable of muſcular contraction, and which appears abſolutely neceſſary for the expulſion of the urine. From obſervation alſo we learn, that the muſcular power of the bladder, like that of other hollow bowels, is greatly injured by over diſtention, and that from a certain degree of diſtention, this power is either entirely, or at leaſt for a time, deſtroyed. When from any accident then the urine is retained too long, and the bladder diſtended beyond what it

can

can bear without injury, it loſes its contractile power, becomes incapable of expelling the urine, and a ſuppreſſion is the inevitable conſequence. The degree of diſtention, and the length of time neceſſary to produce this, admit of conſiderable latitude in different perſons; but I am convinced that the ſame cauſe continuing to act, would finally produce the ſame effect in every one. Both ſexes, as may be ſuppoſed, are liable to this complaint, though women more ſo than men, it being not an unfrequent conſequence of child-bearing, when the accoucheur or midwife has not attended to the neceſſity of drawing off the water, under certain circumſtances, during the time of labour.

The iſchuria veſicalis may be diſtinguiſhed from the two firſt ſpecies of iſchuria by the painful ſwelling at the region of the pubis, and from the third, not only by the preceding hiſtory of the patient, but becauſe the ſuppreſſion in the iſchuria veſicalis is ſeldom complete; the urine in this, either comes away in drops, and with violent ſtrangury,

ſtrangury, or ſometimes a ſmall quantity of water * is forced away with violent ſtraining; but the bladder is never completely emptied, and as the urine ſoon again accumulates, the ſymptoms and uneaſineſs return. It is particularly in this ſpecies of iſchuria that I have experienced the good effects of cantharides, I have not indeed tried them in any other; nor do I ſuppoſe, as their action ſeems confined to the bladder, that there is any other where they could be of ſervice; the only caſe then in which there is a chance of their being uſeful, is the one in which I have found them of efficacy. But if cantharides are a uſeful remedy, ſurgery, it muſt be confeſſed, furniſhes a ſtill more certain and expeditious means of relief, to which however there are often very great, and ſometimes inſuperable objections: delicacy in women, and the pain of introducing the catheter in men, commonly prevent them from ſubmitting to the operation, ſo long as the ſuppreſſion is incomplete, or they

* I have ſeen a pint brought away at a time, and yet the diſeaſe has not been removed.

have any hopes of relief from medicine. Strictures in the urethra are ſometimes likewiſe an inſurmountable obſtacle: nor ought we to conceal from the patient, that though the drawing off the water will relieve him for the preſent, this muſt be frequently repeated to cure the diſeaſe; as it is generally a conſiderable time before the bladder recovers ſufficient tone and ſtrength to perform its office. It has been the common practice in iſchurias, to have recourſe to purgatives, diuretics, glyſters, the ſemicupium or tepid bath, &c. and ſometimes by this treatment, in recent caſes, relief has been procured; but when the complaint has been of long ſtanding, I have never ſeen much benefit derived from any medicine, unleſs from cantharides alone.

Another complaint of the bladder, in which I have employed cantharides with advantage, is the incontinency of urine; this diſeaſe, the oppoſite of ſuppreſſion, is a common ſymptom accompanying palſy of the lower extremities; ſometimes it is occaſioned by luxations or diſtortions of the ſpine, by the ſpina bifida, or other cauſes compreſſing the ſpinal marrow. In moſt of

thoſe unfortunate caſes, little or no relief is obtained by medicine; and it is evident, that unleſs we could cure the palſy, it is in vain to expect a cure for the incontinency of urine.

Bliſters applied to the ſacrum have been greatly recommended, and in ſo far as they are ſerviceable towards the cure of the palſy they are uſeful; but, if I may judge from a ſingle experiment, they have not ſo immediate an effect on the bladder as cantharides taken in ſubſtance. The experiment I allude to was in the caſe of a ſoldier of the Grenadier Guards, who was received into the Middleſex Hoſpital, for a palſy of the lower extremities; owing to which he could neither retain his urine nor fœces. Bliſters were applied to the ſacrum, cauſtics were put on each ſide of the ſpine, and a variety of medicines were tried, from none of which he derived any permanent advantage. He obſerved, however, that whilſt he took cantharides in ſubſtance, he could retain his water for ſome little time, whilſt neither the tincture of cantharides, which was alſo tried with him, nor bliſters to the ſacrum, produced any ſenſible effect.

Beſides the palſy of the lower extremities, there are other cauſes of incontinency of urine, which I ſhall paſs by at preſent, and only take notice of that incontinency which follows or accompanies the iſchuria veſicalis. Two remarkable inſtances of this, which have occurred to me in practice, will poſſibly afford the beſt illuſtration I can give of the ſubject.

1ſt. A young man, twenty-four years of age, after having ſuffered for two days a partial ſuppreſſion of urine, was attacked with an almoſt conſtant ſtillicidium, or dribbling of urine; which, at the time he applied to me, had continued ſix weeks. If the dribbling of urine at any time ceaſed, the ſwelling and tenſion of his belly encreaſed, and cauſed great pain and uneaſineſs. I at firſt tried the common method of cure; I gave him alſo forty drops of the tincture of cantharides, three times a day, without the ſmalleſt advantage. I then preſcribed for him cantharides in powder, beginning with one grain, and encreaſing the doſe to two grains twice a day. He very ſoon was ſenſible of relief, could retain his water a conſiderable time;

and

and after having taken twelve grains of the medicine, made water, only ſix or ſeven times a day, and by continuing the uſe of it, got perfectly well.

2d. A woman, thirty-ſeven years of age, had for four months been afflicted with a ſtrangury, which had its origin in over-diſtention of the bladder: even at the time ſhe applied to me a ſuppreſſion ſtill remained, as was evident from her complaining of a painful ſwelling at the region of the pubis. She had taken various medicines without relief, nor was I at firſt more ſucceſsful, until I had recourſe to cantharides, the powder of which was made into pills of two grains each; of theſe ſhe took one, morning and evening. At the end of the third day ſhe diſcharged from the bladder about a tea ſpoonful of a white glary fluid, and afterwards, made water in the uſual quantity, without pain or uneaſineſs.

The phyſicians who have recommended cantharides, differ very much as to the doſe. Grœnevelt gave from nine to twelve grains along with camphor. Dr. Liſter's doſe was nearly the ſame. Fabricius ab Aqua

pendente, gave two ſcruples. Riverius one drachm. Hippocrates gave two whole flies, without the heads and wings; a precaution which Galen reckons very unneceſſary. I have never exceeded three or four grains for a doſe, as I found this ſufficient to produce the deſired effect, without occaſioning ſtrangury, or indeed any inconvenience. Once or twice patients have complained of ſlight griping, or pinching in their bowels, but whether owing to the cantharides or not, I could not determine. Dr. Grœnevelt always gave camphor along with cantharides, imagining that it prevented the ſtrangury, which they are ſo apt to produce. I have not tried the experiment, not finding any corrector neceſſary. I have never ſeen the ſtrangury, which bliſters ſometimes occaſion, of any ſerious conſequence; and have therefore been under no great apprehenſion of this ſymptom coming on.

Were it neceſſary, I could give ſome further proofs of the ſafety with which cantharides may be adminiſtered, and of their ſpecific power upon the bladder; but what has been ſaid is probably ſufficient

to

to call the attention of phyſicians to the following practical facts, which it has been the object of this paper to point out.

1. That a ſuppreſſion of urine is in general occaſioned by ſome affection of the urethra or proſtate gland, or is owing to a defect of the bladder itſelf.

2. That the iſchuria veſicalis is moſt commonly brought on by a retention of urine, and over diſtention of the bladder: that it is accompanied by ſtrangury; and may be diſtinguiſhed from other ſpecies of iſchuria, not only by this ſymptom, but alſo by a painful ſwelling at the region of the pubis, by the ſuppreſſion being ſeldom complete, and always accompanied ſooner or later by incontinency of urine.

3. That where there is no particular objection, and the aſſiſtance of a ſurgeon can be procured, the catheter is the quickeſt and moſt expeditious mode of relief; but that to cure the patient, it is neceſſary, for ſome time, to draw off the water twice a day.

4. That when the operation is impracticable, or when the patient will not ſubmit to it, or finally, when the ſuppreſſion

is of long ſtanding, and has terminated in an incontinency of urine, in all ſuch caſes recourſe ſhould immediately be had to cantharides.

5. That it is only cantharides in ſubſtance, which, in this caſe, will be of ſervice, the tincture having been repeatedly tried without effect.

6. That cantharides in the doſe of three or four grains twice a day, have not been obſerved to produce ſtrangury, or any other diſagreeable ſymptom, unleſs ſome ſlight pinchings of the bowels can be reckoned ſuch.

7. That a larger doſe of cantharides, if neceſſary, may poſſibly be corrected, or its effect in producing ſtrangury obviated by camphire, new milk, oils, &c.

8. That the diuretic power of cantharides, either in tincture or ſubſtance, is deſtitute of foundation, or at leaſt extremely doubtful.

9. That the ſpecific operation of cantharides ſeems chiefly if not entirely confined to the bladder.

10. That the reputation of cantharides for curing the ſtone, ſtrangury, and gonorrhoea,

hea, is not warranted by reaſon, analogy, or experience.

11. That although cantharides have only been employed by me in caſes of ſuppreſſion and incontinency of urine, ariſing from a diſeaſed ſtate of the bladder: they, in all probability, might be given with advantage in other complaints of that organ.

12. That although incontinency of urine is the very reverſe of ſuppreſſion, yet both the one and the other are induced by over diſtention of the bladder; and that the iſchuria ariſing from this cauſe is always, ſooner or later, followed, if not accompanied by incontinency of urine; and that this ſymptom alone is ſufficient to diſtinguiſh it from every other ſimilar affection.

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